

AN
ESSAY

ON THE

NATURE AND EXISTENCE

OF A

MATERIAL WORLD.

K

Y A S S T

OF THE

NATURE SCIENCE



MATERIAL WORLD

233 £35

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OF A
MATERIAL WORLD.

— Who shall tempt, with wand'ring feet,
The dark, unbottom'd, infinite abyfs;
And through the palpable obscure find out
His uncouth way?

MILTON.

LONDON:
Printed for T. BECKET, the Corner of the
Adelphi, in the Strand.

MDCCCLXXXI.

MATERIAL WORLD.



— Who shall tempt the bottom of the deep?
The dark, unknown, and bottomless deep?
And through the palpable, palpable deep?
This uncounted way?

L O N D O N .

Printed for T. BAKER, the Corner of the Strand.
Adelphi in the Strand.

M D C C L X X I .

to
DR. PRIESTLEY,

AND

DR. PRICE,

GENTLEMEN,

THIS Essay being an inquiry into one of the points that have been discussed by you, and differing very considerably from the opinions which either of you have adopted, and in consequence, containing an opposition to your sentiments; I beg leave to dedicate it to you, in testimony of the cordiality with which I differ from you both. You have shewn so much good temper in your late discussion, that I, though a stranger to you, and supporting very different doctrines, do not fear to be received with enmity or ill-will.

A

THIS

THIS country is under great obligations to you both. You have instructed your countrymen in the nature of their constitution; and you have endeavoured to inspire them with, what is still more wanting than this knowledge, a spirit of enthusiasm and virtue to support it. As a learned people, Englishmen cannot but be grateful to you for the advantages science and literature have received from your labours. On my part, I feel a particular respect for men in whose writings so much piety and virtue are discernable.

I do not praise you thus publicly because praise is necessary to a dedication, neither do I imagine myself adding to your reputation; but I am desirous to shew that I have a sincere regard for your characters and abilities. It is, perhaps, in some manner necessary to do this, because of the freedom with which I have treated each of
your

your opinions; and because I have differed from you both in points which you deem of the highest importance.

I HAVE used little lenity to some of your opinions, and perhaps more lenity than might be approved by every one on so grave a subject. I confess I do not see that error should ever be permitted to take refuge in a place where ridicule ought not to follow. I hope at least the liberty I have taken will give neither of you offence. I have done every thing with good-nature; and have never lost sight of that best of all rules, to judge of others' feelings by our own. It is easy to distinguish the raillery of a friend from the sarcasm of an enemy; and I trust that nothing I have said will ever be mistaken for the last.

METAPHYSICAL subjects are so very obscure, that we may easily forgive or be

forgiven any incidental wanderings. The right road is very difficult to hit; and by a slight deviation on either hand, we go still farther and farther astray. Certain it is, that we are liable to very great mistakes. The disputes of metaphysicians somewhat resemble the game at blind man's buff; every one is blinded in turn, and the rest endeavour to drive him into some blunder; and should he tumble over a stool, or be brought to the light with his face blacked or perriwig in disorder, who can chuse but laugh? To a man that sets about this work with a serious heart, it may indeed be a very awkward thing to be caught in any such ridiculous situation.

I do not believe this to be the case with you. I apprehend none of your serious hopes, nor your motives to virtuous conduct, are founded upon metaphysical subtleties

ties so superficial and ill-grounded, as to be overthrown by me. It appears of small consequence on which side the truth or error of speculation may fall. Abstracted doctrines have little weight on the practice of the world. Such opinions as can influence our actions less govern than are governed by our inclinations. It is true, a vicious document may be like a blow to an unsound body; the disorder might not have broke out precisely at that time; but a healthy mind always adopts suitable opinions, and will even convert bad ones into benefits. In the present case I see no advantage that your doctrines have over mine with regard to any bias they may give to the mind.

I HONESTLY think you have got into some situations out of which it is impossible to extricate yourselves, incumbered as you

are with such a load of matter—a whole world upon your shoulders. I should be very happy in compelling you to relinquish it, and in reducing you to the spiritual condition in which I am, without one particle of solid matter, or a single repulsive sphere. Were you to oblige me to re-assume this gross world, I fancy that the burden would check my alacrity; and, perhaps, your minds, were they compelled to lay it aside, would feel themselves somewhat uncomfortable (stalking about like spectres) without a rag of matter to cast over them. But time, doubtless, would wear that off. Souls have a great talent at conforming to necessity.

In this Essay there are many things that would have been unnecessary, had it been addressed to you only. The subject appears to me so little understood in general, that I
imagined

imagined it requisite to say more than would have been sufficient to masters in speculations of this sort. My opinions are very unpopular, but they are not less just on that account. The voice of the people is not the arbiter in metaphysics. I think my doctrines simple, evident, and invulnerable; but if this be an argument, what theorist is without it? I shall not say it will give me pleasure to be convinced that all I have advanced is erroneous; if I am vanquished, I must yield. I will maintain my opinions no longer than I think them just. If yours be untenable, I expect you likewise to surrender.

I am, with great respect,

GENTLEMEN,

Your most obedient servant,

The AUTHOR.

imagined it to be a very great thing
have been sufficient to make it in people's
eyes at this time. If my opinion are very
unpopular, that they are not held on that
account. The voice of the people is not the
voice of infidelity. I think my doc-
trines are evident, and undeniable;
but if they are a wrong, what should I
wonder at? I shall say it will give an
occasion to be convinced that all I have
advanced is true, and I am satisfied.
I must give. I will reserve my opinions
no longer than I think them just. If you
be convinced, I expect you likewise to
be convinced. I am, with great respect,
I am, with great respect,

Yours truly,
G. L. L. L.

Your most obedient servant,
G. L. L. L.

Yours truly,
G. L. L. L.

P R E F A C E.

A METAPHYSICAL rage appears to have risen among us. Every Advertiser gives notice of some new publication on the subject, and every Review a new account. We may hope from this fit of popularity, that the disgrace which generally attends this line of study may be wiped off. There is certainly a prevailing antipathy to speculations of this abstracted nature; but they are reprobated on very unreasonable pretences: that they are idle, unprofitable, and produce nothing but absurdities revolting to plain understandings. The friends of the several arts and sciences, indeed, find some whimsical advantage or other to be derived from each. A weak mind, it is said, may be strengthened by the mathematics, and acuteness given to a dull one by logic; history is to give us ability and wisdom in our conduct in life.

life. A rude temper is to be softened by the love of music; and poetry is to root out all the vices of our nature. But the defects of the mind are more difficult to cure, and this is not the business of the arts and sciences. Literature is cultivated less for the exterior advantages which attend it, than for the pleasure resulting from the pursuit. We cannot promise, that by the study of Metaphysics every statesman shall become a Machiavel, and every general a Cæsar; but it may be said of this, as well as of every considerable branch of knowledge, that those who cultivate it with success will have pleasure in it. It may be said of a contempt of metaphysics what is said of a contempt of women, or of poetry, that it indicates some unsuccessful attempt to an intimacy, or a natural inability to enjoy the pleasure they afford.

It is a weak charge brought against metaphysics on account of the many strange errors philo-

sophers

sophers of this kind have promulged. Were all the false criticism and bad poetry collected; the histories written without discernment or skill, and all the theories in physics; though each of these subjects can afford failures as enormous as may be found in metaphysics, yet can this in no manner derogate from criticism, poetry, or natural philosophy. It is unfair to visit the sins of the one upon the other.

It is the intention of every one who writes on these matters to clear away the errors that his predecessors have left, or may have cast upon the subject, and it is mine likewise. To this end it is the purpose of the following essay to set aside matter, as being one great source of confusion. The ideal system is accounted an hypothesis unsupported by facts. I adopt it from an opinion that it is the only system of metaphysics that contains nothing hypothetical, and give it my support

port because of the modesty of its pretensions ; never outstepping experience, and remaining in ignorance and doubt where this fails.

THE ideal system is very contrary to the opinion of the generality, as well of such as philosophize as those who do not ; and it is usually rejected by both with great disdain. But though the generality concur in adopting the opinion of the existence of matter, it must be noticed, that it is adopted by the philosophical and by the popular part on very different grounds. The popular part adopt a material world merely from the evidence of sensation. The ideal system explains the nature of their sensations, and their objections arise from an ignorance of the subject. No arguments therefore can be addressed to them until they become acquainted with the nature of the question debated. When those see the philosophical part whom they were wont to regard as the patrons of their own opinions, making such
large

large concessions to the ideal system as they do make, and even (some at least) acknowledging that the material world cannot be proved with the full evidence they are accustomed to expect, it ought to make the popular part a little less dogmatical than they are apt to be. Dr. Priestley allows that the Idealists have a negative on the existence of matter, and reduces it to a mere probability. This is very candid in a Materialist.

A PURSUIT of the best philosophy sets at variance the mental and material world. The dissimilarity gave rise to the notion of a pre-established harmony by which Mind and Matter went in concurrence, without any mutual action one upon the other. Dr. Reid and his followers, although sensible of the contrary nature of matter and our ideas of it, reject this harmony without intermediate connexion, and contend for a union of the Material World with our minds in an intuitive

intuitive way. It is somewhat singular that these philosophers should deny the existence of that world we discover by our feelings, and raise up a new one that has no resemblance to any of our sensations.

DR. REID stakes his philosophy on certain conceptions being in the mind which are neither sensations nor ideas. "I would propose (says he) an *experimentum crucis* by which the ideal system must stand or fall, and it brings the matter to a short issue. Extension, figure, motion, may any one, or all of them, be taken for the subject of this experiment. Either they are ideas of sensation, or they are not. If any one of them can be shewn to be an idea of sensation, or to have the least resemblance to any sensation, I lay my hand upon my mouth, &c." *Inquiry*, p. 108.

Not only the Scotch philosophers, but many others, among whom are Cudworth, Harris, and the

the excellent Dr. Price, are of opinion that the mind is filled with conceptions which never made their way by any inlet from without; and are only awakened in us by the objects of our senses in a supernatural way; and that it is among those we are to look for the image of the external world. In the course of this essay I have endeavoured to give an account of the ideas of extension, figure, and motion; and think it not impossible to trace them to their origin in our sensations.

THIS instinctive system is very injurious to plain philosophy; but Dr. Priestley, of all others, is the man that has introduced the most confusion into this portion of learning. With Newton's philosophical laws perpetually in his sight, no one has gone more contrary to their tenor: The distinct natures of the ideal and material world he has confounded in one, even while he allows them to be distinct. As an Immaterialist, he

he admits of Mind prior to Matter, and independent of it; nay, his very matter is the produce of mental agency. But again he appears a Materialist so sincere, that from Matter thus made, he produces Mind. He supports the opinion of an external world like that of Descartes, where extension is the substratum. But Dr. Priestley's Matter does not consist of extension only, but of centers of repulsion and attraction; and neither does it yet consist in centers, nor in powers of attraction and repulsion, but in divine agency. I will not anticipate the account of these opinions, which will come in their proper place. It need only be observed, that the various notions the Doctor has taken up in the course of his writing, when enumerated, sufficiently shew that his Theory has been too carelessly considered, and too hastily sent abroad.

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THERE have been many subjects started by philosophers, which, from their nature, are incapable of discussion ; and there are others so entangled with the prejudices and passions of the disputants, that the most clear and decisive argumentation can never bring the world to a unity of opinion concerning them. This

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question

question on the nature and existence of matter, though certainly terminable, we may venture to reckon amongst those subjects of controversy that will never be decided, but are destined to be handed down from generation to generation as points of contention to exercise the spleen and ingenuity of men. Yet every one who takes up a weapon in the quarrel will not only think, as well as I do, that it is possibly terminable, but that the party whose cause he sustains actually has the advantage. Combatants in philosophy, like combatants in war, conceal the injuries they have received in the contest, and claim the victory. Not many of the partizans are acquainted with the real state of the engagement; and amongst the chiefs, a candid acknowledgment of a defeat is not oftener practised in philosophical than in national differences.

THE

THE present question concerning a Material World is attended with peculiar difficulties. Whatever doctrine we adopt, we shall find it followed by such improbable consequences, as must render either alternative almost incredible; insomuch, that not many will have the hardiness to admit fully either the existence of matter, or to deny it firmly. Scepticism, which is the common refuge of feeble and irresolute minds, will most probably be the portion of the generality of those who dare venture on a discussion of the present subject. Such as, from different habits of study, may not discover the difficulties of this question, but readily embrace their opinion, and defend it sturdily, are, perhaps, the greatest number even of speculative men. But such carelessness, however easy it may render the possessor, is not desirable; suggesting, as it does to those who perceive it, a doubt least they

themselves be in the same condition. Though truth is only to be estimated by the good which accompanies it, yet by habitual pursuit it becomes itself an ultimate good ; and a moderate advantage is not, in the practice of the world, regarded as an equivalent for a deception of the judgment. Therefore this enquiry, giving rise to doubts and suspicions, will need no other apology with hardy minds for rousing them to a vexatious pursuit, than its containing grounds for a reasonable distrust of their popular philosophical axioms.

THOSE, who are so pusillanimous as to prefer quietness with error, to a research that may bring the existence of their world into danger, I need scarcely conjure to avoid the threshold of metaphysics, and not dare to prophane her mysteries with eyes unpurged and unenlightened.

THE difficulties that cover this subject arise, with many other evils, from the presumption of man. Not content with the ample range that Nature sets open to him, he must needs pry into her secret doings, and attempt to discover by what means she sets us and our whole machine in motion. Not satisfied with the scent of the rose, or with its beauty, our curiosity craves to know the primary cause by which it looks so fair, and smells so sweet. The philosophic, as well as the vulgar, have been led into the pursuit of this strange fancy. But this is a chimera which no acuteness or perseverance will ever reach; and may be ranked among those researches that render the labours of ingenious men the ridicule of others less wise than themselves.

ALTHOUGH there is a natural impossibility of obtaining any knowledge of original causes, yet, from a superficial and popular view, we are be-

trayed into the belief that our faculties do reach to somewhat of this kind. In speaking of our sensations and their objects, when we assert that a table is smooth, such a field green, or the water of such a brook cold, we allude to feelings that are common to mankind, and similar in all. While we speak only of the agreement of our sensations with those which others feel, we are clear and explicit in our opinions ; but the double meaning these expressions have, is the source of all the confusion incident to this subject.

WHEN we say that such a thing is cold, and such another green, we speak not only of what we feel, but of external qualities correspondent and similar to our sensations. The terms apply equally to the properties of bodies, and to the impressions they make upon our feelings. But a dissimilarity is presently discovered between the sensations and the qualities in matter that give rise

rise to them. When the objects of one sense are misrepresented, we go to be more accurately informed of the nature of the property by the information of some other organ. From this point we leave the province of fact, and go in search of causes ; but still expecting to find the reason of the phenomenon in the structure and powers of matter. Here is the beginning of all the sad adventures that have befallen in this fairy land. The remains of many a tall metaphysical knight-errant are strewed about, declaring their mischance, and admonishing us to shun the like fate. The singularity of some discoveries we make on our entrance into the subject, entice us farther on ; but the errors and laughable doctrines the research has occasioned, should make us proceed with fear and trembling. Logic and imagination are blind directors. Nothing can be done but to pursue Nature through all her changes from one sense to another : if our sight deceive us, we must

refer to the touch ; but if intelligence can be gained no where ; if we can neither hear, see, nor feel the world we are in search after, our case is desperate, and we must remain in utter darkness as to its existence. The inferences of reason are idle here.

THE existence of matter being a question of fact, and as such certainly not beyond the reach of our faculties, we might have some hope of arriving at the end of this dispute, were it not covered with innumerable difficulties ; some entailed on it from habits of thinking natural to us, but more and greater from those who have attempted to disentangle it. It is a case that physicians of eminence have sent out of their hands, not only with the evils with which it came to them, but with new injuries from improper treatment. By the misapplication of reason, it has not always been regarded as a point of fact to be decided

decided only by the experience of sensation, but has sometimes been accounted a question determinable by pure syllogism, without the assistance of analogy.

THIS is not the mistake of former more barbarous times only, but of the present philosophical age. The clear evidences of sense are disclaimed, and the dispute is carried to a distance from the legitimate tests of truth, where the creatures of imagination are received as the proper types and genuine information of existences. We cannot expect the question to be determined, till it is set upon true ground. The proper sources of information must be discovered, and the false rejected. Till this be done, the debate will be carried on in the dark.

THE phenomena of nature ; their agreement and disagreement, and the order in which they
are

are connected, constitute the whole circle of our knowledge. The truth or falsity of every affirmation determinable by our faculties, is decided either directly by *Perception, or indirectly by the inferences of Reason. There is no other way by which we can attain truth than by these two : they each have their proper province ; and it is of importance that we understand when we ought to employ Reason, and when Sensation, as the test of truth. Mistakes made here (and notorious mistakes are made) occasion great error and confusion : but by considering the nature of Perception and Reason, and what kind of information we are to expect from each, the danger may be avoided, which others less cautious have fallen into.

It has been usual to oppose the faculties of Perception and Reason to the no small disadvantage

* This word is used to express the knowledge of any idea that is present in the mind ; and sometimes the knowledge of sensations.

tage of the former, and with much undue compliment to the latter. It is very justly we determine our dignity by the extensiveness of the reasoning powers; and we say that, without their exertion, the experience of sensation would be unprofitable. The perceptions which pass through the mind, instead of sinking uselessly into oblivion, are treasured up; and from thence Reason can see into futurity, and is capable of avoiding evils ere they approach, and of intercepting advantages which otherwise might not have been obtained.

So excellent a faculty as this, operating in an unknown and wonderful manner, may easily be mistaken for a divinity within us. The novice who has been too much employed in attending to the world without him, to have observed the interior progress of his mind, and gradual opening and growth of this faculty we call Reason,

when

when it at last draws his attention, no wonder that he is surprized to find himself in possession of a thing so strange and noble ; and he naturally concludes, that it has always been as perfect as when he found it, with many other whimsical opinions concerning its nature. Pleased and flattered with the subject of his praises, he goes on without end or measure.

NOTHING is so common as to hear this faculty treated as though it were a somewhat celestial. Every day we perceive it absurdly accounted an arbitrary energy ; an active, voluntary power of the soul. But this, with every other part that forms the fabric of the mind, stupendous as it may appear when reared up and arranged in order, will undoubtedly be found to be built by the travail and industry of the senses. It is a curious bee-hive, and the materials of which it is composed are extracted from numberless sources.

Though

Though we may not be able to find in the compleat structure, the origin from whence all the little particles, of which it is composed, came; we may nevertheless be certain that it was raised without enchantment, and was put one piece to another by small degrees, and by a mechanical progress. But the panegyric manner of treating the mind will occasion much prejudice against opinions like those which, tho' simple and reasonable, yet derogate from our pretended dignity.

It is the peculiar characteristic of the evidence of Sensation and Perception, to be clear, definite, indubitable, and what is commonly called self-evident. There is no appeal to any thing beyond, for it is, in its nature, ultimate. To perceive, is to have a perfect knowledge of that which is the subject of perception.

THE objects that are presented to our senses, and the ideas that arise in our minds, are perceived

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necessarily; and we have no power to alter such perceptions in any manner whatsoever, but must receive them as we find them. On touching a rock or a tree, or looking on a field, or at the sky, we understand the existence of these things completely. When we think on them while they are absent from our senses, we are then convinced only of the existence of the ideas, and not of the objects which they represent.

REASON has been defined to be a faculty by which we can discover unknown truth from circumstances premised. But this is a definition that is not only imperfect, but one that will be apt to lead us into the popular error, a vague notion, that the determinations of Reason are the acts of a faculty deciding after an intuitive manner: that they are not pointed out by any other guide, but proceed from what we may call the innate wisdom and good sense of the faculty: and, in short, that

that Reason possessing a prophetic nature, is that sublime faculty we are accustomed to call it. Thus we set up Reason with the glory of a monarch; and, like the parasites of other kings, not content that it should possess a delegated power, we contend for a dignity inherent and underived.

INDEED it is very natural for such as look no further into the nature and operations of their minds than is necessary to the ordinary occupations and studies of life, to form some notions of this sort; but that nothing can be worse founded than these are, will easily be discerned, by attending to the progress of our Reason; its foundation in the experience which Sensation and Perception affords; in what manner the principles or rules of Judgment, that entirely govern its decisions, are obtained; and how vain and absurd are its conclusions,

clusions, when it attempts to decide without those principles of Judgment.

IMMEDIATE objects of Sensation and abstracted ideas, or as they are called ideas of reflection, are the ground and subject of all reasoning. However noble our reason may be, the facts upon which it is employed are unsubstantial; or gross and earthly beings; and what is still more degrading, it must give judgment according to laws which it does not make, and utter what is not suggested by its own sagacity. Experience is its guide; and Experience, doubtless, is a creature that must for ever grovel with its nose to the ground; and yet Reason is a blind wretch that cannot go without it.

THE act of reasoning is the application of a pre-established rule, by which a conclusion is pointed out as necessarily consequent to certain pre-

premises. The circumstances premised are either facts of sensation or of ideas ; and the principle of judgment by which the conclusion is described or pointed out, is formed from the reiterated conjunction of the premised facts with the consequent circumstance. When we perceive a man of a fierce and violent temper, affected with anger on account of some injury that has been offered to him, we conclude he will offend his enemy when an opportunity arises. If we know the injured person to be timid, and actuated by fear of the danger that may accrue to himself from committing violence, or possessed with a contempt of him by whom he has been offended, or governed by religious principles of forbearance ; we then infer such actions as have been known to flow from these several principles, according to the disposition and views of the person offended.

AFTER the same manner we reason upon the physical properties of bodies. A rock that is im-

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moveable

moveable by the strength of many men, we know may be thrown out of its place by such an increase of strength as will render the effort superiour to the weight of the rock. The weight of a piece of metal, and the force of a certain quantity of gunpowder being known, the distance to which the ball may be cast is foretold.

IN those instances of reasoning on physical and moral subjects the process is the same. The foundation or subject is some sensible or ideal fact; and it is sufficiently obvious that the rule or principle which directs us to the circumstance inferred must needs be formed and established by experience; or, in other words, by a series of experiments the fact which we foretel has been so conjoined with the preceeding ones, that we conclude them to be connected in their nature.

THIS exercise of reason, in complicated subjects, to a careless eye may appear arbitrary;
but

but how instantaneous soever its decisions be, we may not hesitate to ascribe it to the same regular progress which we see takes place when the subject is comprehended with ease and clearness. In our judgments concerning the actions of men it cannot be doubted that the maxims by which we are guided, whether we have been taught them by others, or have learned them from experience in life, are founded upon reiterated facts; and that according to the number of precedents the maxim will be more or less stable, and our judgment dubious or inevitable.

If there be one thing more ridiculous than another, it is the attempt to speculate where experience affords no light. It is in this we learn the blindness and imbecillity of Reason, and find that we are possessed of no power that can discover, from known circumstances, unknown truth, without the aid of some more unerring

director. The supposition that we are able to do this, was the origin of all the logical and metaphysical follies of the monkish ages ; and it has required the efforts of many great men to overthrow what they had reared. Even in these enlightened times, so much of the evil yet remains, that every philosophical trifler will pretend to demonstrate a thousand matters that are clearly beyond the reach of our faculties, and of a nature so contrary to our's, that our minds are intirely incapable of receiving any knowledge of them. On hearing an ignorant enthusiast transgressing in this way, we can allow ourselves to be amused ; but to see men of genius and superiour abilities busied in the same manner, we must lament the talents thus unluckily misguided. Our countryman, the celebrated Dr. Clarke, will ever be a sufficient proof (and I fear not the last) how futile are all attempts to discover truth by the mere tricks of logic.

THE

THE time has been when, by raising a syllogism, many magical feats were performed; hidden things were brought to light, and Nature was compelled to unfold her mysteries. But the season is now past. The Idol that was wont to hold council with the Gods has become dumb, and will no more utter *à priori* the secrets of the world. We must now creep on from fact to fact, and obtain our knowledge by means purely natural.

FROM the preceeding observations it is farther observable, that real positive truth can be discovered by Sensation or Perception alone; and that the very nature of reason implies contingency. The decisions of Reason ever relate to some circumstance or fact which has not yet happened; or if it is in being, its existence does not appear. To give perfect evidence of actual absolute existence is the exclusive province of Sensation

and Perception. The certainty which experience gives to our reasoning, is sufficient to warrant our most unlimited confidence in it. None will ever doubt, that on putting his hand to a flame, it will be scorched, and that he will receive a painful sensation; but the reasoning declares the thing has not yet happened. When the contingent circumstance is arrived, Reason is then past, and has given place to Sensation.

THERE are no subjects on which Reason and Perception can be employed that are not comprehended in one of these three classes: they are either simple phenomena, material or ideal; the agreement or disagreement, equality or inequality among these phenomena; and the order in which they are connected.

IN the first class are comprized all the properties of bodies, and of ideas, which constitute their
nature,

nature, and by which they are distinguished one from another. Every proposition concerning these can be decided only by Sensation and Perception. To endeavour to reason here, is to reject the evidence that is perfect, for that which is imperfect. If we feel a rock to be hard, or the remembrance of a painful sensation to be disagreeable, we cannot deny the evidence of our perception, and render ourselves more content, by any feat of reasoning upon it.

To the second class belongs all Geometrical and Arithmetical truths; and these likewise are within the province of Perception. Our minds being capable of receiving several sensations and ideas at the same time, we see the agreement or dissimilarity there may be among them. The solution of problems bears some affinity to a process of reasoning, in that it establishes rules by which, from given quantities or numbers, others

are deduced which did not appear. The difference is in the certainty of the one, and the contingency of the other. The one points out truth really existing; the other, truth which either may have existed, or is not yet in being. The rules by which problems are solved, are aids by which the mind may comprehend different series, and discern how the conclusion corresponds with the given circumstances, or in what proportion they differ.

THE third class, comprehending all the operations of physical and moral nature, is the peculiar field of reasoning. In all things animate or inanimate, we see changes perpetually taking place with infinite variety, yet not without order; for we observe the same combinations of circumstances frequently return. The observation of such conjoined series forms in our minds an idea of the great chain of causes and effects.

Those

Those series which the experience of all men show to be invariably connected, are named Laws of Nature. All known bodies gravitate toward a center; we therefore properly conclude that all bodies whatsoever have that gravitating property. All men love that which is pleasant, and abhor that which is painful; and from thence we account these to be laws by which all minds must be governed. In such combinations, the preceeding circumstance is termed the Efficient; and is said to possess a power of altering the subject whereon it acts. The changes which are produced on the conjoining the Efficient with its subject, are nominated the Effect.

THE phenomena of nature are so numerous, and the principles which come in play at the same time, so intermingled, that Reason has a vast field whereon to display and exercise its function;

function ; but in no case can it deviate from the laws of Nature, and predict an effect, or infer the existence of a cause, wholly unknown to all experience, and of a nature intirely dissimilar to all that have been known. It is highly necessary that the error of such a proceeding should be manifest ; and I cannot doubt that it will be abundantly so, by observing, that every conclusion we draw is pointed out by a rule tacitly declaring, that such, or analogous circumstances, have actually been experienced.

If the above reasoning be just, we cannot hesitate in assenting to this determination, that the foundations of all reasoning being objects of Sensation or ideas of Reflection, and the rules or principles of judgment being experience in such phenomena ; the circumstances inferred in all our reasonings must

must likewise be of the same nature, that is, either objects of Sensation or ideas of Perception.

FROM hence we may obtain two maxims to direct our research ; to point out the only way by which we can ever gain the truth, and deter us from applying for information to sources from whence none can come. These may be received as infallible tests of truth in all our speculations concerning external Nature : 1st, All knowledge of material beings is obtained only from impressions made upon the organs of sense ; and, 2dly, No abstracted notion, or combination of ideas, derived from sensible impressions, can represent any external being or existence.

FROM the first maxim it follows, that if we are deceived by our senses, we can know nothing of the external world. It appears to us possessing
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heat and cold, hardness and softness, colour, figure, motion, and other such properties; if it be not possessed of any of those qualities, it is nothing our minds are capable of conceiving. Upon these alone we must ground our belief of Matter; and the issue of the dispute depends upon the examination of the truth and fidelity of our senses.

By the application of the second maxim, innumerable errors will be brought to light, and we shall see the impositions the mind has put upon itself from the misuse of abstracted ideas. It is hardly necessary to explain the operation by which these ideas are formed; yet those who best understand the process seem not aware of the consequence, that they are no other than fictions of the mind, which cannot represent any thing external to it.

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THE very nature of abstraction is unreal and imaginary ; it depends upon the negation of every determinate property or idea. No number of cyphers can, by any arithmetical process, be made to produce an unit ; neither can a process of the mind consisting of a negation, bring forth any thing positive. Red, and blue, and yellow, and the other colours, each individual ideas, are all distinguished by the general name Colour. By the term we understand one great class of perceptions, different from all others, but bearing a certain relation among themselves, and having a point of similitude in which they all agree. The term is general because it is applicable to each and every one of the individuals of the class. By a false appearance of unity general ideas have misled many to imagine them to be real substances ; and that the individuals stood in relation to them as properties do to the internal cause by which they subsist. But this
unity

unity is wholly ideal. It is even improper to say that a general idea is one, composed of all the individuals of the class, for it is no complete idea at all; it is only a commodious term that we apply to any of the several ideas for which it stands. The term Colour applies to blue, to red, and to yellow; but is not an idea composed of those and all other colours. The idea is indefinite, and may less be called an idea than a symbolical term.

From the ideas we have of a horse, an owl, a whale, and of other beasts, we form the abstracted notion of Animal. Under this term we do not conceive, much less imagine to exist, a thing that is neither man, horse, nor fish. The abstraction implies no nature or property essentially new or different from the individual impressions which form its basis, it is used to mean each indifferently, and is merely to be considered

considered as a convenience toward the apprehension of our own thoughts, and the communication of them to others. What an egregious mistake would it be, instead of understanding this abstracted notion to be a help to apprehension, we should run away with the fancy, that it was the type and proper semblance of a being that was neither fish, beast, nor fowl, yet consisted of all of them; a thing existing neither in time nor place, yet time and place should be necessary to its existence; made up of body and soul, yet possessing neither! I do not know that any one has been guilty of this very absurdity; but the instances are innumerable where this folly has been committed on the same principle, where the procedure was equally visionary, and the inference full as ridiculous.

THE regions of Metaphysics have been crowded by such imaginary creations. It is

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not surprising that the plain men of the world should be scared by these chimeras from setting foot upon this ground. Even the metaphysics of our reasoning age are disgraced by the fancies which originate in this source of error. If the maxims laid down be of the value I trust they are, they will operate like talismans on these logical necromancies, the appearances of which may be splendid, and may flatter us with the possession of false riches; but enchanted ground is always dangerous, and we ought to prefer security and truth, even upon a barren heath, to gilded delusions, that are in perpetual danger of tumbling about our heads.

THE great division of the external inanimate world is into Matter and Space. Extension and Expansion are said to be the unalienable and peculiar attributes of those two species of being. Many have imagined that their very
nature

nature has been delineated by those terms. Some do not think matter so properly defineable by its extension as by its solidity, yet acknowledge that matter cannot be divested of this extension, and believe that it is a real, and not a fictitious attribute: but every one allows that the intimate nature of space is apprehended under the term expansion. These are instances how far ingenious men have abused themselves by the fallacious application of general terms.

THE idea of extension is said to accompany every impression made by matter upon our organs. Whatever we handle must needs have extension, or it would elude our grasp; whatever we look upon must be extended, or it would be imperceptible; the softest note could not be heard without a grossness in the particles of air that supposes extension; and this grossness is still more palpable in the objects of taste and

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smell.

smell. This importunate idea makes its way to our minds by every inlet of the body, and we cannot exclude it. We can frame no conception of matter without admitting extension as an essential to it; and can it yet be nothing? Or shall we conclude, as some great men have done, that it is matter itself, or the very substratum of it?

By recurrence to the maxim that no abstraction or general notion, derived from combining the ideas of individual impressions, can represent any external attribute or being, we shall readily learn in what estimation we ought to hold this universal and formidable idea. If we find it in the rank of those illusions I have complained of, we ought not to treat it with more lenity because it is a prejudice of long standing, and has been cherished by famous men. From that circumstance, because it is old, and has imposed upon

so many, we ought to afford it no mercy. That it does belong to the class of general ideas, I trust, will require little trouble to prove.

EXTENSION, as it is discovered to us by the touch, ever accompanies such a degree of solidity as is capable of making an impression upon our feeling. As we apprehend it by the sight, it is conveyed under a coloured body, large enough to be perceptible. All that we mean by the idea is, such a quantity of surface as is capable of making an impression upon our organs, or upon organs that are sufficiently fine to receive it. It is from the various subjects of length and breadth of surface, together with all the possible degrees, that we obtain a general idea of extension. If, indeed, it be other than this, it remains to be explained by those who affirm it to be different. This idea is neither long nor broad, but it is applicable to any individual degree of length or

breadth. Its universality can be no matter of surprise, since every thing capable of impressing our organs, or every idea of body that can be contemplated by the imagination, must be possessed of a certain assignable degree of surface or size, in order to render it an object either of perception or imagination.

EXTENSION can be no property of bodies constituting their nature, and is only a sign or concomitant of solidity, meaning no more than such a degree of the surface of solid matter as may be capable of making an impression on our organs; and this with a negation of all its particular properties, and without any specified degree of surface. It appears almost incredible, that this phantom of imagination should ever be mistaken for a real constituent attribute of matter. The idea is, indeed, as universal as it possibly could be, on the supposition that it were intuitive.

intuitive. Must we therefore admit it to be such? The ideas of size, or of nothingness, are also universal. We understand what is meant by the terms, but this renders them no less non-entities.

IN the doctrines concerning the nature of space the absurdity is still greater. Here also is a conception of which we cannot possibly divest ourselves; and it is yet more unsubstantial and visionary than our idea of extension. They both exist in negatives; but with this difference, whenever we think of extension, some resemblance to the individual properties of matter rises to our view, which, though dark and retired, is sufficient to detect its hankering after the gross earth from whence it originated. Extension is applicable to the particular properties of matter; Space or Expansion is applicable to nothing. It originates in no sensible quality;

it is solely a negation of every other idea ; and, from its nature, it is utterly incapable of making itself known to our minds. It is no property ; it is no substance. What then must we call it ? And from whence has the notion risen ?

EVERY thing around us, capable of making an impression upon our senses, is distinguished under the general term, Matter. On stretching forth our hands, if a body be within our reach, we lay hold of it ; if not, we receive no sensation. And this absence of matter we learn to discover by sight, as well as by feeling. This emptiness is distinguished from bodies capable of striking our organs by the name of Space, the meaning of which can only be body tangible, or not-tangible. This is all the knowledge we can possibly obtain of a Vacuity ; but it is very far from resembling the idea which philosophers mean by that term. Of this space we can say no farther
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than that it is an emptiness of matter solid enough to impress our organs. The philosophical idea of Vacuity is a void of all matter, how fine soever it be; which is an arbitrary notion, and one that is contradicted by all our experience. The air, from whence we gain our idea of vacuity, may neither be felt nor seen; but it is well known that no respiration could proceed without a fluid matter gross enough to occasion the action of the lungs; neither can an absolute vacuum be made by any artificial engine. The air may be greatly rarified; but where there is a single particle, such is its power of expanding itself, that it will sufficiently prevent vacuity. Nay, the endless divisibility of matter is so manifest from every thing we see, that an unprejudiced inquirer would naturally conclude that this property is sufficient to exclude vacuity, since matter may be so rarified, that from the limits of our aerial region we may go on, rendering the cir-

cumambient matter, rare and ethereal, with as little limitation as is prescribed to the boundaries of space. When we are carried in idea beyond the limits of our atmosphere, we cannot imagine it to be prevented from dissipating without the incumbent weight of some ethereal body. This ether, when compared to the grosser air, appears to us like vacuity, yet it has no more resemblance to the imaginary vacuum of the philosopher than the compactest body.

BUT it is the hypothetical aid space affords the philosopher that makes him so anxious after it; for, without this, he cannot account for the phenomena he sees. Motion he deems utterly impossible without space. Part of Nature must, by a fatal necessity, be unblest with being, that the remainder may not be a useless creation. Were all full, nothing, it is said, could surrender its place to another, there being no void into
which

which it might move; without which, no change of place, or motion, could exist. The materialist, who is desirous of simplifying his system, may exclude space by some considerations like these.

IN accounting for Motion, or any other natural phenomenon, where we do not perceive how it is performed, we must ever accept that solution which is attended with the smallest difficulties. The philosophical vacuity being incapable of affecting our senses, discovers it at once to be hypothetical, and that we are incapable of pronouncing upon it, absolutely. Matter may be attenuated without end; and while we rarify it in imagination, let the degree be never so extreme, we are still upon firm ground; but as soon as we pass the immense gulph that separates this imaginary space from, even the rarest, matter, analogy and reasoning are at an end.

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This is a theory so very extraordinary, that we ought not to have recourse to it, unless we cannot philosophize without it. Now it appears that the difficulty admits of a much easier solution from the uncircumscribed nature of the universe.

ALL bodies are subject to be broke in upon and removed out of their places, by others of a superior weight and force. The fluid matter which surrounds and appears to fill the interstices of solid bodies yields with particular ease. A body moving through a fluid forces the portion nearest to it out of its place; this, acting upon that adjoining, likewise removes it, and so on the motion proceeds. This requires, either that the body impelled should contract within itself, or encroach upon some neighbouring body which is lighter than it is. Without taking the vast leap between matter and absolute vacuity, we may
 imagine

imagine the regions before allotted to philosophic space to be filled with fluid matter, when the difficulty seems to be past.

A SOLID body plunged into water obliges it to swell and press upon the atmosphere; this, we may suppose, expands itself upon some other fluid, and thus the motion goes on to be propagated without end. It seems then, the difficulty of accounting for motion without vacuity has arisen from an erroneous notion that matter must be bounded and inclosed; when, by giving as free scope to our fluid as we do to the ideal space, the difficulty is solved.

If fluid matter were contained within bounds beyond which it could not expand itself, there would be a greater difficulty to combat. But even here we are not without means of escape, more natural than admitting vacuitous intersti-

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ces. And from the most probable considerations on the internal formation of some fluids, we find this difficulty does really occur, and requires to be accounted for.

Air having the property of being contracted and expanded, we must conjecture from hence that its structure somewhat resembles spungy, cellular substances; its solid parts elastic; and its cells not absolutely void, but filled with another fluid, bearing the same proportion to the more solid parts of our air, as it does, filling the cavities of spungy bodies, to their solid parts. A confined portion of air, on being compressed, decreases in bulk; the solid parts press in upon the fluid with which its interstices are filled; this being composed of solid parts, with cells filled with a yet finer fluid, contracts likewise; and thus, from the divisibility of matter, we shall ever find a fluid more attenuated than the last,

to yield to its more powerful impression. If this theory appears improbable, it must be observed, it is a difficulty entailed upon Matter; and the Materialist will only adopt it to escape from a Vacuity, which is still more improbable.

THE straits to which even the masters of philosophy have been driven to prove the existence of this vacuum, sufficiently shew the badness of the cause. It is said, * the philosopher needs do nothing but leave this Universe, and soar into the abyss of possibilities, and there (as it is easy to do) perch himself upon the extreme verge of Creation, when, by stretching forth his hand, the affair is done. The hand of a philosopher thus stretched out is beyond created matter; it is in space—therefore there is space. Ah! what a

vacuity is this into which grave and solid philosophers have fallen! More unfortunate than Satan,

* Locke's Essay, p. 135.

Satan, they meet with no friendly explosion to deliver them from the gulph; but to this day, to this hour, have continued falling, and perhaps may continue on to eternity.

BUT I am almost ashamed to tell what philosophers have made of this space when they did find it. It is said, What is got over the devil's back, must be spent under his belly. If there be a fatality that occasions every thing wickedly got to come to an evil end, here is an instance of an affair oddly begun, with a conclusion no way derogatory to its birth and commencement. This whim, spawned between light and dark by some shadow passing over the smoking brain of a philosopher, has been set up as a *Deity, or
a part

* *Free Discussion*, p. 68. "It is well known that some of the first christian writers have believed infinite space to be an attribute of the Deity." According to Dr. Clarke, the impossibility of annihilating space and time is the same with the necessary existence of the Deity. See Letters affixed to his Demonstration,

a part of Deity, and modern Metaphysicians have bowed down their heads before it. Oh! monstrous! When did Superstition ever produce a creature so grotesque as this? The philosopher tries in fancy, to divide, take away, or annihilate, any part of this vacuity. It cannot be done. His endeavours are as fruitless as though he made the same attempts upon Nihility. What then is left for him to do, but to conclude it to be infinite, eternal, necessarily existent, and to exalt it into an attribute of his God.

We Europeans are an enlightened people, and these later ages are notable for the cultivation of pure metaphysics; yet let us not oppress too much with our ridicule those ignorant nations, that have raised up odious and noxious creatures,

* It appears to me that whatever cannot be annihilated, even in idea, must be an attribute of the Deity.
Free Discuss. p. 104; and Clarke's Demonstration.

creatures, crocodiles and monkeys, and owned them for their Deities. The * American, like a most unphilosophical savage, was guilty of unpardonable error in adopting an ugly Rattlesnake for his Great Father. Nevertheless, as philosophers, we ought to seek for opportunity to be candid; and this instance of barbarity may be found to have some ground of extenuation. Perhaps at some time or other he might have caught this deity of his with his tail in his mouth, when something like infinity, or eternity, might have been suggested to him, and this for a poor savage; would be sufficient reason for the honour he conferred upon his reptile. However, as sages, it becomes us not to despise the ignorant, but to be grateful that the more blessed rays of science have shone upon our heads.

SINCE, in the imaginary realm we have passed through, we can gain no tidings of the Material

* Carver's Travels.

Material World; it will be proper to leave so dark a wild, where we are in danger of mistaking the hobgoblins of metaphysics for the substantial world we are in search after. We next find, that Solidity, or Impenetrability, is held out by the generality of philosophers as the genuine characteristic of matter. This is bringing the question upon a ground where it can be fairly debated. Extension without solidity is a world scarce worth contending for; but here, if the materialist gains the point, he is in possession of somewhat substantial.

Solidity indeed appears to be the substratum of matter, or its fundamental property; for, by it all the other properties exist. Without these the other qualities could not act, or could not even be conceived to exist; they being no more than modifications of solid matter, operating after different ways. It may not be im-

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proper to shew in what manner every other quality is resolvable into this one of solidity.

THE organs of taste, in their application, are only another species of feeling, and do but differ from the power diffused over the surface of our bodies in this particular; by means of our fingers we can only discern the properties of hardness, roughness, heat, and certain others, when by the palate we discover not only those, but also some that are very different, and altogether undiscernable by the general organs of feeling. Sour, sweet, bitter, and the various tastes that are made known to our palates, are ever referred to the different modifications of bodies, as the immediate cause of such sensations. The scents also which we feel are constantly referred to the same cause. Likewise in the phenomena of sounds, there is no difficulty in conceiving that they are occasioned by the pressure of air upon
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our organs, and that the air must be possessed of solidity to make an impression.

THE impression that bodies make upon the eye do not feel to us as the effects of any thing solid; and it is only by some attention that we understand a solid or tangible matter is necessary to the phenomena of vision. Solidity never appears to the eye; but by certain signs, corresponding with other properties discoverable by the touch, we learn to know the tangible properties by sight. If the appearances to the eye be not followed by the proper corresponding feelings, we account them false affections of the organ; and there are many instances where the eye is thus deceived, but very few in which the feeling gives false information. From the constant authenticity of the touch it becomes the test of truth to the sight. When our organs are in a proper state, whatever we see supposes a

matter that is tangible. By a little progress in optics, we learn, that the whole phenomena of sight are occasioned by particles of solid matter reflected from the surface of bodies upon the nerve of the eye; and were they not solid or tangible, the sensations of light and colours would not be caused. Thus we see all our sensations are occasioned by a solidity of matter; and that the difference of the sensations arise from a different modification of bodies operating upon our several organs.

THIS, then, must be the strong hold of Materialism, and the place where all its partizans must make their stand. They have been driven from all the other modes of sensation, so must take refuge under that of feeling, and their cause will depend upon its fidelity and support. I am of opinion, there is no consistent scheme of Materialism but this, where solidity

is made the ground of the hypothesis. Take it away, and the world around us will dissolve, and leave not a wreck behind. Beyond it all is unimaginable chimera, where the most ingenious can only blunder in better terms than the most ignorant.

HERE the philosopher meets with strange difficulties. Whether he turns to the right hand or to the left, he finds mysteries to be gorg'd by those who are determined to be Materialists, before they can be admitted as orthodox. The one of two doctrines is submitted to our choice; either the infinite divisibility of matter, or the hypothesis of monads or uniform particles, which form the foundation of matter, and which are themselves indivisible.

THERE seems less faith required to adopt the former than the latter of those doctrines; though

the difficulties that attend the real infinite divisibility of matter have generally occasioned philosophers to give it up, and have recourse to indiscerptible particles. Every thing we see around, leads us to conclude, that matter is divisible without end ; and if we judge fairly of what we experience, we must believe that this is a constant property of matter. All the bodies we know are composed of parts separable from each other. Stone or mould may be separated and divided till it becomes so small as to elude our touch and our sight ; and when it has passed beyond the sphere of our senses, we pursue it in imagination with a natural impossibility of ever reaching a point of diminution so extreme, as to be incapable of any further division. However it be divided, it must still be possess'd of Extension ; and therefore must be composed of parts, for parts are ever implied in Extension. It is said we may go on thus dividing

viding to infinity. We cannot know what infinity means, but we may discover an express contradiction in the idea of infinite divisibility; and whenever we attempt to be explicit in the terms we use, the absurdity becomes evident. We say that there is a perpetual tendency to a point of diminution; and yet we believe that no such point exists: that by divisibility, matter is continually approaching to an end; yet has no end: that the smallest particle of earth has as many parts as the earth, or even as the whole universe. This is indeed a difficulty; and if absolute contradiction be the test of possibility, we may, without hesitation, pronounce this infinite divisibility to be impossible.

How then are we to escape? We cannot avoid this divisibility of bodies, neither can we disentangle it from the absurdity that connects with it. Shall we imagine that matter is no more

than an illusion of the mind, existing only in sensation? I apprehend that few will be willing to be quit of greater absurdities at so dear a rate. Besides, whatever this supposition may be, Matter must not be given up, till it can no longer maintain its solidity.

To avoid the difficulty, and put a stop to this unceasing divisibility of matter, philosophers adopt the theory of indivisible atoms. These they do not hold to be indivisible from their minuteness, but on account of their constituent hardness. Such monads must still necessarily be possess'd of extension, and consequently of imaginary parts, so that they are still divisible in supposition; but the supporters of this doctrine institute a sort of declaratory act, by which atoms, like the parliament of England, are said to possess a power, which in no case can be employ'd. They cannot be divested of extension,

tion, which is a unity composed of parts; yet no power whatever (according to this doctrine) can deprive them of this unity, or make any alteration in their figure or size.

THERE is another difficulty, of a nature similar to the infinite divisibility, which is evaded by this hypothesis. As we perceive matter to be separable, and that this separation might proceed to infinity, were not philosophers to put a stop to so unreasonable a proceeding of nature; so we also perceive a property in bodies, by which they are compressible; and this likewise would proceed to infinity, were it not for the doctrine of infinitely hard particles. There is no species of matter known, that is not subject to compression by the application of sufficient force; or that is sufficiently solid to exclude all interstice or vacuity. Whatever body is not compact enough to have all pores filled up, is
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necessarily liable to be crush'd into less bulk by superior power; and in compression the vacuities will decrease only in proportion to the solid parts. Thus by the operation of an increasing power, the world may be reduced in bulk *ad infinitum* without making the smallest approach to nibility. This conclusion is vastly strange, yet the terms are clear, and the conclusion inevitable.

WHAT will the Materialist say, when he sees the universe in imagination dwindling down to the size of a cricket-ball? and what must be his terror when he perceives the diminution proceed till the whole is fled beyond the sphere of his senses? will he not with Imogen pursue the darling of his thoughts,

—— till it has melted from
The smallness of a gnat to air, and then,
Then turn his eye and weep? —

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This compressibility will as effectually bereave him of his world, as though Berkeley should come with the power of annihilation, and like a destroying demon, snatch it from beneath his feet. A world reduced to the bulk of a silk-worm's egg is not his, according to the fond ideas he has framed of it; his world is incapable of such mortifying diminution, and is spacious, elevating, and sublime.

THIS compressibility can be prevented only by atoms, constituted naturally impregnable to any power whatever. But it must be observed, that this doctrine of monads is an hypothesis adopted in opposition to nature. However useful it be, it is unsupported by any fact or experience. We ought to judge of matter only by what we learn concerning it, of bodies fit to become the subjects of experiment and analysis. The properties that we thus find
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can alone be admitted as authentic ; and those that are found in all bodies, must be received as general properties of matter. Every known body is divisible and porous ; therefore we ought to account matter in every case compressible and divisible.

FROM the phenomena of heat and cold, Dr. Priestley infers, that the constituent particles of bodies are not in contact, but remain detached from each other ; but granting the hypothesis of monads, it does not appear that the phenomena will bear this inference. If light and heat enter a piece of matter, we are only to conclude that it is porous. It seems extremely violent, to conclude from thence, that the parts of which it is formed touch each other at no points. Let us suppose, that the utmost compactness resulted from a regular arrangement of the constituent particles of matter,
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where they were all so placed as to preclude every vacuity; that the compactest piece of matter known to us, was very far from this degree of solidity; and that flint or gold, or the most solid materials, consist of irregular groups of these atoms, touching only at certain points, and admitting considerable interstices in a uniform manner, throughout the whole mass. The increase of bulk of a piece of gold, by means of heat, is easily accounted for, by the enlargement of the interstices, without having recourse to the supposition, that no single particle is in contact with another.

WE may imagine that, by the application of a certain force, this world is reduceable into a state so solid and compact, that neither heat nor light should find a pore at which they could enter; and beyond this, not even divine force could produce the smallest degree of compression.

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This is the limit prescribed by philosophers ; and by the same doctrine of infinitely hard particles, the divine power is restrained in a matter of much more importance.

WHEN the sage puts a stop to the infinite divisibility of matter, he little dreams of circumscribing the bounds of existence, and cutting off on one hand an infinity of beings, that might have been possessed of the powers of sensation and happiness ; but such is the consequence of constituting those impenetrable atoms. However small those original particles may be, if we are but able to reach them in imagination, we are ready to set off for a fresh infinity ; and each particle, as we proceed, is capable of being a whole universe to a new order of beings. And from all microscopical discoveries, we are led to believe that this is really the case. But this benevolent idea is
stopped

stopped in its progress by those odious, uninhabitable monads. Who can behold without sorrow the unfeeling Materialist, seated on his leathern throne of science; his head, woollen night-cap and all *in nubibus*, stretching forth the dread compasses taken from the armoury of metaphysics, and with the utmost *sang froid* circumscribing the bounds of animated being! By the operation, myriads of worlds that bloomed in idea wither at once. Germs of new systems that were quickening into life, perish, and again fall back into a state of non-existence. Alas! alas! how lamentable is the effect of the human passions! the rage of conquest will desolate whole kingdoms; but the rage of theory prevents an infinity of worlds from rising into existence.

THESE are difficulties inseparably connected with the doctrine of external matter, when its
existence

existence and solidity are admitted. But, existence, and the property of solidity, its peculiar mode of existence, remains to be contested. Dr. Priestley makes an attack against the very foundation of the material world. With the true spirit of philosophy he depends only upon fact and experience. We are ignorant of those constituent particles of matter that are said to possess unalterable solidity; and he, therefore, disclaims the doctrine as theoretical, and as tending rather to soothe a philosophical pride, than as adding to our knowledge of nature. He finds no instance where it can be made appear unequivocally, that resistance results from solidity, or that bodies do ever come into real contact with each other; in which case alone, solidity is of any benefit. But on the other hand, many instances are brought where the phenomena, that were imagined to be produced by this solidity, are really performed by certain powers

powers of attraction and repulsion, acting at a distance from the surface of bodies. By this he has not barely denied the existence of solidity, but has rendered it useless.

THIS is a severe blow to the doctrine of an external world. Solidity is the chief pillar on which it rests. If this be once ruined, the Materialist will be careless for the unsubstantial remains. He must needs be staggered on perceiving so many cases where his other senses have misled him; but on finding there are instances in which his feeling has deceived him likewise, he can no longer hold it to be the infallible test of reality he was accustomed to regard it. It is indeed a mortification to the Materialist, to find that when he imagined he was admitted to the most familiar intimacy with nature, that his fingers sunk into her very substance, and that he was in undoubted contact,

tact, yet all the while was put off with a false show, and kept at a mortifying distance. He readily acknowledges the uncertainty of the other senses, but depends upon the touch as upon a well-tryed friend. Will not the Materialist, when he finds this honest faculty in conspiracy with the other traitors, exclaim with Cæsar in despair, "*and thou too, Brutus!*" What more is left for him to do, but like Cæsar also, to fold his mantle round his head, and to die with dignity?

NOTWITHSTANDING some instances may be adduced, where resistance is occasioned by a power acting at a distance from the surfaces of bodies, and that the ideas of hardness and softness are raised without the solidity that was supposed constituent in matter, and necessary to those feelings; yet this may not destroy entirely the notion of a somewhat substantial, existing

isting in the objects we see and feel. We are more staggered than convinced, and are inclined to think they are deviations from the usual practice of nature. The only arguments that prove clearly and uncontrovertably, that there is no such property as this solidity, according to the usual notions concerning it, are derived from the nature of sensation. These shew not only that there is not, but that there cannot possibly be any such a property.

BUT before we proceed to enquire into the nature of sensation, it may be necessary to determine upon the meaning and description of this property, Solidity. As the idea which this term conveys is not always applied to any identical perception, but is the representative of a class; it is to be ranked as an abstraction of the mind, and as such excluded by our second maxim, as incapable of conveying distinct information of any particular property.

SOLIDITY or impenetrability, with some means that imaginary degree of hardness which they assign to the constituent parts of bodies ; but this being mere hypothesis, it cannot be admitted as a just description of this property. It can only mean that quality by which bodies are capacitated to impress organs fitted to sensation. The causes of all the classes of sensation are resolved into modifications of tangible matter ; and as it is in hardness that tangibility consists, the touch becomes the test of the other senses, and the arbiter of the dispute concerning matter.

SOLIDITY cannot be an image of any property or mode of being, but the representation of a genus or class, applicable to the particulars of the class, and used for the convenience of the mind. The term refers constantly to hardness, but without instancing any particular degree ; for, like every other abstraction, its formation depends upon the exclusion of individuality.

ality. Therefore, when we enquire concerning the nature of solidity, we must have recourse to some identical degree of hardness, when our conception and our reasoning will be clear and definite.

THE existence of the Material World depending upon Solidity, and this Solidity being no other than hardness, the dispute will be brought to a short issue. By this term we mean to express the distinguishing property of matter, the internal structure of its existence, and indeed every thing we certainly know of the external world. If our idea of this solidity be not a true representation or resemblance of this quality as it exists in matter, it follows necessarily that we have no knowledge of the Material World. We then can only say that our sensations are raised in us by some power; but if this power bears no similitude to those sensations, we have no knowledge of it.

THE different natures of Mind and Matter are so opposite and distinct, that neither of them

SOLIDITY or impenetrability, with some means that imaginary degree of hardness which they assign to the constituent parts of bodies ; but this being mere hypothesis, it cannot be admitted as a just description of this property. It can only mean that quality by which bodies are capacitated to impress organs fitted to sensation. The causes of all the classes of sensation are resolved into modifications of tangible matter ; and as it is in hardness that tangibility consists, the touch becomes the test of the other senses, and the arbiter of the dispute concerning matter.

SOLIDITY cannot be an image of any property or mode of being, but the representation of a genus or class, applicable to the particulars of the class, and used for the convenience of the mind. The term refers constantly to hardness, but without instancing any particular degree ; for, like every other abstraction, its formation depends upon the exclusion of individuality.

ality. Therefore, when we enquire concerning the nature of solidity, we must have recourse to some identical degree of hardness, when our conception and our reasoning will be clear and definite.

THE existence of the Material World depending upon Solidity, and this Solidity being no other than hardness, the dispute will be brought to a short issue. By this term we mean to express the distinguishing property of matter, the internal structure of its existence, and indeed every thing we certainly know of the external world. If our idea of this solidity be not a true representation or resemblance of this quality as it exists in matter, it follows necessarily that we have no knowledge of the Material World. We then can only say that our sensations are raised in us by some power; but if this power bears no similitude to those sensations, we have no knowledge of it.

THE different natures of Mind and Matter are so opposite and distinct, that neither of them

possess a single quality in common. Sensation is the exclusive characteristic of mind, and solidity differently modified makes up the various properties of matter. Texture and figure cannot resemble the sensations they occasion; neither can ideas resemble texture and figure. Our knowledge of the external world is in sensation, but sensation cannot resemble our ideas of the external world. We may observe, that before we begin to reason on the nature of sensation, we make no separation between the objects and the ideas raised; particularly in the phenomena of sight and feeling. The objects seem united to the mind, and it appears as though we were rather carried forward to the objects, than that they made an impression upon any intermediate organ before they reached us. By sight the mind appears present to the object, at whatever distance it be; and by the touch the mind seems to be at the surface

surface of our bodies, and the surface of the object felt. It is by experience we learn that perception is not an immediate act of the mind, but performed by means of many intervening circumstances.

SCENTS and sounds are acknowledged to arise from the action of somewhat upon our organs, and are not attributed to any qualities similar to those sensations. It is with greater difficulty we admit the perceptions of sight and feeling to be produced by mediate or secondary causes. By attention we learn that these also are impressions upon our organs, by causes different from the ideas we perceive. Many more circumstances concur to undeceive us in the phenomena of colour than in those of feeling. Colour supposes solidity; but we are often deceived in this. False affections in the eye raise ideas of colour when there is nothing external; and the eye is regarded

as faithful only when it is certain in discerning real bodies ; that is, external solid bodies. Colour, as in the instance of mists, appears like somewhat solid, but on approaching we cannot touch it. This is not a fault, but a perfection in the sight ; for it is capable of perceiving solidity in bodies when it is too fine to make impression upon our feelings. We know that mists are matter, only less solid than those bodies which are tangible. Wherever there is colour we infer solidity, and that it is tangible to organs sufficiently fine to be impressed by it.

COLOUR is not any constituent property of bodies, but depends upon a process that can have no similarity to our ideas of colour. We soon learn that the mind is not carried forward to the object ; but that rays of light, imagined to proceed from the sun, are reflected from the surfaces of bodies after different ways ; these striking upon
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the outward part of the eye, a portion of them is collected according to certain laws, and from thence proceeds to the retina, where, instead of a confused stream of light, it becomes a diminutive picture of the objects that are before us. Neither does it end here, nor is perception at this place. It then loses its picturesque form, and we suppose it to be conveyed, by some motion, up the optic nerve into the sensorium, and there to become the sensation we perceive. After a process so tedious as this, we naturally become dubious. We have traced colour through a variety of shapes; from a stream of particles to an inverted picture; afterwards to vibratory motion, and we know not how many other shapes it may take, before it becomes a sensation. We acknowledge our idea of colour is not like the motion of a nerve; that it is not like the configuration of particles on the retina; neither does it resemble a stream of light, nor any mode by which
rays

rays are reflected, nor yet the texture of bodies by which those reflections are produced. We can only call it the effect of an unknown cause, operating by means of solid matter.

TANGIBLE objects have not so many circumstances by which we can detect the cheat, as objects of sight. An object felt makes but one change, that we can discover, before the perception rises: but this is sufficient for our purpose. Though we are never carried beyond the body to a tangible object, as we are to those of sight, yet we are led to the extremity of our bodies, and are apt to imagine that perception is performed there. It is only by the clearest evidence that we are convinced the intermediate organs of the nerves and brain are necessary to feel bodies, as well as to see them.

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THE sensation of solidity is produced by a power of resistance, or that property of matter which prevents one body from breaking in upon another; and the degree of hardness is according to the strength of resistance. This resistance is supposed to operate upon our bodies by some motion given to the nerves that spread over their surface; this motion is communicated to the brain, and the perception is generated; though in what manner it is connected with the nervous motion we are utterly ignorant. The sensation of hardness that we feel cannot resemble the vibration of the nerve, neither can we imagine it to have any analogy to the power of resistance. Our ideas of solidity therefore, like our ideas of colour, are similar to no external property; and, if we must needs infer any thing from the facts or phenomena of sensation, it can be only that they are produced by some external power; but this power, not bearing resemblance to
 any

any kind of sensation, we must remain ignorant of its nature.

THUS we see that the ideas received by our organs of sensation cannot resemble any external matter. Besides the ideas of taste, smell, sound, colour, and solidity, which are the proper impressions from their respective organs, we receive others, by means of the sight and touch: such as roughness and smoothness, heat and cold, by the touch; and figure and motion by both sight and feeling. But if the other original ideas resemble not their causes, neither do those, which are no other than modifications of solidity and colour.

THE pain of heat and cold shews evidently enough that matter has no property resembling those feelings. The sensation of roughness is occasioned by a texture of surface, where there are a number of points projecting beyond the rest;

rest ; and smoothness, where the surface admits of a more uniform impression : both depend upon solidity. Figure is discerned but imperfectly by feeling. We pass our hands about the objects from place to place, and gain what we know of it by the different sensations we receive from its different parts ; and greatly from the knowledge we have of the direction in which our limbs move, and the space over which they pass. But all this depends upon different impressions of solidity, and could not be without it.

FIGURE, as we perceive it by sight, is no more than different portions of colour, included in one perception. It is very obvious if individual colours represent no external property like themselves, neither can an assemblage of different colours, after what manner soever it be, resemble any distinct external property. We discern no projection by sight ; all objects are to the eye
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upon a flat superficies. Among the vast variety of a single perception we see no real division. Colours terminating in certain manners make different figures to be distinguished. By the experience of the touch we learn to know that some forms which appear only terminations of colour, are bodies actually distinct; and in time, by the certain appearances of light and shadow, and other particulars, we come to know the real position and form of bodies by sight.

ACCORDING to this reasoning, it is of little consequence, whether the resistance of bodies communicates motion to our nerves by contact, or by a repulsive power, acting at a distance from their surfaces. The sensation is a thing equally distinct from the motion, which ever way it be produced. The instances where a repulsive power, acting at a distance from the surface of matter, occasions the feeling of hardness or solidity,

lidity, tend to shew how distinct the idea is from any substantial property of matter ; it being produced where no such solidity exists.

In proceeding thus far, we have scarcely left a fragment of that Material World which was the object of our search. Yet, even in this condition, does Dr. Priestly receive it into his protection, and contend for it with much zeal ; but how successfully, remains to be tried. The materialists, who acquiesce in the foregoing reasoning, will not look unfavourably on any attempt to shew his theory to be as inefficacious a foundation for a Material World as that of solidity. When the ancient basis of a theory is destroyed, we are apt to look peevishly upon any essay to prop up the little that remains.

DR. PRIESTLY's world originates in divine agency or active powers. The operation of these
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are said to produce an unsolid extension; which when put into motion, constitutes the creation we perceive. Scents, sounds, colours, and whatever else produces sensations in our minds, are only different kinds of agitation in this unsolid extent.* A portion of this matter which we call light, meeting with another body is repelled, and thence passing away to attack our organs, gives a motion to our nerves; they continue the motion to the brain, where new vibrations are generated, which we feel to be bodies figured and coloured. The rays of light are motion; the bodies which reflect them are motion;

* "*All sensations and ideas being vibrations in the brain; and all that is properly unknown in the business, being the simple power in the mind to perceive or be affected by those vibrations.*" *Remarks on Dr. Reid, p. 32.*

Sensations and ideas are in their very nature perceptions; therefore, vibrations being sensations and ideas, necessarily include perception.

our nerves and our brain are motion ; and our ideas are of a nature similar to the rest.

INDEED Dr. Priestley is the most æconomical philosopher that has appeared among materialists, and produces a world at the smallest expence. Motion is his sole material, which, like Peter's crust, contains the essence of every thing : but while Peter palmed that upon his friends for every different delicacy, the doctor makes motion actually to assume the shape and nature of all the good things of the universe. A guest set down at the great feast of life, should he enquire whence, and what, are the various perfumes and tastes with which he is regaled ? — they originate in motion, and are motion. Of what nature are the pleasures with which the arts of music and painting inspire him ? — mere motion. What constitutes the sublime piety and benevolence of good men, the wisdom of the philosopher, and the boundless imagination

nation of the poet?—barely some vibrations rising in delicate fugues within the brain: nothing in the world but motion. If simplicity be the evidence of true philosophy, what theory of materialism can come into competition with this?

It must be acknowledged, that without motion, communicated by some unknown power, solid bodies could not make any impression upon our minds. It is of no consequence, whether the inactivity of matter be removed by a power communicating motion by contact, or by attractive and repulsive powers; it is sufficient that all are agreed on the necessity of motion, in order to give rise to our sensations. It is the perpetual action or agitation of bodies by which they affect the ear, the eye, and the feeling. The surface of matter impels the rays of light, and the motion of a string gives an undulation to the air; these again put the nerves in motion, and the
sensations

sensations rise. This is universally allowed to be the progress of matter in its way to the mind. Dr. Priestley alone maintains that oddest of all notions, that the subjects on which motion operates are physical points; that the bodies to be moved are motion itself; and that the external matter he so strenuously contends for, is no more than systems of agency, without a subject whereon to act.

DR. PRIESTLEY knows that motion is itself no being, but only a state to which beings are incident. Motion supposes somewhat besides itself. Without an impellant and an impeller, it is inconceivable. Motion is the changing of place; but somewhat capable of occupying place is essential to the change. Certain it is, if there be not bodies to be moved, there can be no motion. These bodies must be extended, and have parts; and, if there be reality in these bodies,

they must needs be solid. Here we again return to the properties of matter, which Dr. Priestley entirely excluded. We are obliged to admit one of these two conclusions, either that matter is a real existence, possessing solidity ; or that there is no matter. The dilemma is unavoidable.

OUR ideas of motion are received both by the feeling and the sight. The motion we see in bodies constantly refers to the evidence of the touch ; if it be not supported by our feeling, we imagine our eyes have deceived us. There are numerous instances where we are thus deceived, and have the idea of motion where no motion exists externally. Our idea of motion, as we receive it by sight, is only a succession of forms and colours. The vibration of a string, or the undulation of water, is discerned by a repetition of similar changes in the form and colour of the string and fluid. In the same manner motion is
felt,

felt, by successive impressions of hardness, heat, roughness, and such other properties as we perceive on the touch of bodies. Motion does not represent any new property in matter; it only suggests an internal change among the properties really possessed by it.

If hardness, roughness, and colour, represent nothing real; neither can motion, or the succession of those ideas, be a proof of any thing external. Colour represents nothing like itself; and hardness is not like the structure of matter; figure is no more than a variety of other properties related in a certain way. Form, solidity, colour, represent nothing external like themselves; will then the lapse, the change, the recurrence, at intervals, of those qualities, become a reality? The materialist who makes this the foundation of his world, does not build upon the sand, but on the wind. It were better we should

adopt an hypothesis where only moderate difficulties are to be overcome; and that of solid, indivisible, unalterable atoms, is framed to our hands, together with a vacuum appointed for its receptacle.

WE find in Dr. Priestley's theory two faces, that look very opposite ways. On one view of it we see a material substance, and a soul properly material, extended, and divisible, arising from this substance. Here the spirit of man is levelled with the earth he treads on. But the other face of the system is the reverse of this; where we see matter, humble and despised matter, rising from its inert and dormant state into a living existence, possessed of powers that are denied to the lofty spirit of man; and, in fact, become the operative attribute of the Deity.

THE intellect originating in the creation around us, bound within the limits of necessary action,

action, and its volitions subjected to the government of motives as involuntarily received ; unable to move a limb or an eye, but by a mechanism where itself is not the prime operator ; its judgment veering to the casual blasts of experience, and pointing insensibly as they affect it ; its imagination gathering flowers which it did not plant, and combining them after ways which it does not determine ; applauded and defamed, punished and rewarded for actions and determinations, which flow from necessity so inevitable, and laws so efficacious, that they can neither be shunned nor retarded : such is the description of the lowly state in which the mind is said to be. The condition of matter is widely different. A nature is given to it as immaterial and free as the most sanguine friends of immaterialism and liberty have ever imagined concerning the mind. The operation of its active powers originates in itself. It begins motion in a liberal manner, unlike to

mind, without the aid of motives ; unrestrained and unguided by any preceeding cause, being itself a primary cause, and holding within itself the first link of causation. So great and so high are its excellencies, that it is very properly blended with divinity ; and may, with great justice, be accounted one and the same thing.

It has ever been usual to regard Matter and Mind as things whose natures are so clearly distinct as never to be confounded ; and this supposition does not appear unreasonable. The characteristics of the one are Sensation and Perception ; of the other Solidity, under different modifications. The internal changes in the structure of Matter bear all a resemblance each to the other, as things of the same nature. Two pieces of wood by friction generate a flame, and are themselves consumed. A spark communicated to gunpowder causes the inclosed air to
occupy

occupy many times its former space, and the more solid parts to disappear. The changes are only in the shape which the bodies take, and not in the matter of which they are composed. It is very natural to suppose the parts which compose this wood and this gunpowder, which way soever they be modified, will never cease to be solid, or become Perceptions. On the other hand, our Perceptions have a similarity among themselves; and which ever way they be turned and mingled, they never cease to be thoughts, and become hard substances.

DR. PRIESTLEY, designing to break down the barriers that separate these two, and to make them one; finds inertness and solidity to be the properties which will for ever prevent matter from enjoying a single sentiment, or a thought from becoming a divisible substance, removes them both without remorse. It is using Matter rather

then scurvily to take from it Solidity, its ancient inheritance ; by which it has subsisted since the days of Adam, in a manner decent and becoming its nature ; and then to trick it up in all the pomp and finery of Mind ; insomuch, that Mother Earth shall not be known by her own children.

As I must think matter has been hardly treated, I will endeavour to bring it back to its former state, and disprove what Dr. Priestley has advanced concerning the exclusion of solidity and the investing it with active powers ; and I expect to find little difficulty in shewing these powers are not necessary to the existence of matter, and that solidity is absolutely indispensable to its being.

“ It

“ It will readily be allowed, that every body
 “ as solid and impenetrable, must necessarily have
 “ some *form* or *shape* ; but it is no less obvious
 “ that no such *figured thing* can exist, unless the
 “ parts of which it consists have a mutual attrac-
 “ tion, so as either to keep contiguous to, or
 “ preserve a certain distance from each other.
 “ This power of attraction therefore must be
 “ essential to the *actual existence of all matter* ;
 “ since no substance can retain any *form* without
 “ it. This argument equally affects the small-
 “ est atoms as the largest bodies that are com-
 “ posed of them, &c.” *Disquisition on Matter and*
Spirit, p. 5.

THIS consideration is the corner-stone of the
 new theory of materialism. But there is an error
 in it which overthrows the whole, and that so
 palpable, that it requires an apology for offering
 to point it out. It seems unnecessary and im-
 pertinent

pertinent to bid any one be cautious lest they mistake the cohesion of a solid body for the solidity itself; to bid them beware of confounding the contiguity of the parts of a piece of matter with the matter; or, with a grave face, attempt to inform even the heaviest philosopher, that the being of matter does not depend on its particular modification.

DR. PRIESTLEY appears to have fallen into the strange mistake, that the form or shape of matter constitutes its existence. It cannot need to be observed, that form is necessarily consequent to solidity, and dependant upon it. By pulling down a house, we destroy the house; but the matter of which the house was made does not perish with the structure. A stone crushed into powder and scattered in the air, though it is no longer to be seen or felt, the dust is yet in being. By evaporation water or perfumes are dissipated; but

but we do not thence say they are annihilated. Matter equally exists, whether it cohere or be diffipated. The form in which it appears to our senses may be lost by diminution; but the separation of parts does not imply the annihilation of parts: and therefore their contiguity is not the foundation or cause of their existence.

THIS oversight might find some excuse in one who has but newly adopted his opinions; but that a theory, subversive of all established philosophy, and pretending a new and better explanation of nature, should arise from a mistake like this, will not be easily forgiven a philosopher of name, like Dr. Priestley.

THE Doctor is not more unfortunate in attributing the existence of matter to powers that are extraneous to it, than he is in giving it a being in extension without solidity. Under the name
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of a Materialist he denies all the properties * by which matter has ever been known and characterized; and describes it by powers, which, without those very properties, are incomprehensible. It is yet more extraordinary, that in his most accurate † definition of matter, he admits those properties; and the powers, which before were matter itself, give place to another thing, and are said to be possessed by it; which is an acknowledgment that active powers are not the very matter itself.

POWERS cannot mean any thing without a subject whereon to be employed. Dr. Priestley perceiving this, assigns them an unsolid extension, consisting

* "Matter has, in fact, no other properties than those of attraction and repulsion." *Disq. p. 17.*

† "Matter is an *extended substance* possessed of certain powers of attraction and repulsion." *Free Discuss. p. 16.*

consisting of physical points * ; which points no one ever imagined to have actual existence.

† Extension is not a property of bodies constituting their nature ; it is no other than a sign or concomitant of solidity. Like form or figure, it is a necessary attendant on solidity, and is as incapable as them of existing without it. If this be admitted, we may conclude either that there is no external matter, or that it is possessed of solidity.

NOTWITHSTANDING that solidity is the ground of all other properties, Dr. Priestley in excluding it does not exclude them also ; but, with

* By retaining extension, after solidity is excluded, there is a necessity to explain of what it consists, and physical points are as little absurd as any other mode that could be found. The Doctor could not have admitted this equivocation but from the most pressing necessity.

† See p. 33.

with this unsolid extended phantom, in support of his character as a materialist, produces a world animate and inanimate ; mental and corporeal. The corporeal part extended, figured, and divisible ; the mental part extended, figured, and divisible likewise. The corporeal is caused and exists by the exertion of active powers ; and the mental is caused by the motion of the corporeal physical points.

EXTERNAL bodies affect our organs, and they communicate a motion to the brain. So far every philosopher will accompany Dr. Priestley ; but here they modestly put their hands upon their mouths, and will pronounce no farther. Every one will be willing to admit of vibrations in the brain, or somewhat similar ; and this seems to be the utmost reach and limit of matter. Who will ever hope to explain in what way the mind is connected with these vibrations ? What may
we

we think of the unaccountable and monstrous fancy into which the doctor is hurried, by his enthusiasm and excessive attachment to his theory; * asserting, as he does, his expectation of seeing *how* the mind springs from organization? It is not the less presumptuous hope of discovering the extreme link of causation before ideas are produced; but it is to be intimate to the act, to bring under our very visage, and to have us behold the thoughts streaming from the agitated vibratiuncles. By what inlet of perception will this glorious thing be made known? Shall the soul break in upon the optic nerve like the opening of heaven? Or, the fine chords of the brain, struck by divine agency, shall they utter forth a living song—and shall this be mind?

It is natural for matrons to see visions, and old men to dream dreams; and it is moderate to

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* Free Discuss. p. 260.

believe that some favoured sage may spy into futurity; but such a discovery as Dr. Priestley leads us to hope for in some approaching philosophic and happy period, has never been opened to our view before. In short, it is so great, and so flattering, that we ought not, in prudence, to set our hearts upon it. Let us think of the dangers of ambition, and turn us to more humble pursuits; and endeavour rather to find out the origin of man, the transmutation of metals, or the balm of immortality.

DR. PRIESTLEY is the only philosopher (and I trust he will long remain alone) who pursues the soul into her inmost recesses, to find what her nature is. This he pronounces to be as really extended and divisible, as the stones or clay. It is almost incredible that any one could possibly err to this extremity; and I might be supposed guilty of some gross misrepresentation, could I
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not point out the very words in which he asserts our thoughts to be divisible, and in every thing resembling the objects we see and feel. *

EVEN this might be attributed to an accidental error into which the doctor had fallen; but the proper materiality of the soul is set, beyond all doubt, to be his serious opinion, when we find him contending for the existence of ideas independent of our perceiving them; and declaring his belief that they enjoy, like other bodily things, a relation, in point of place, one to the other. †

DR. PRICE very justly observes, we may as well assert that ideas have roundness, or hardness, or roughness, heat or colour, as divisibility. Indeed Dr. Priestley appears to argue so much

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* Disquisitions, p. 37.

† Priestley's Review of Reid, Beattie, and Oswald, p. 65.

in saying, “* what correspondence can there be between an idea and its archetype if there be not a mutual resemblance?” The doctor seems to be deceived by not distinguishing between the perception and the thing perceived; expecting a similitude which does not exist. “If the Mind” says he, “be a simple and indivisible substance, it cannot be possessed of more than one idea.” By this it is obvious he mistakes *difference* for *divisibility*.

THE divisibility of bodies is characterized by these two particulars: the separation of the united
parts

* In Dr. Reid's Theory it is necessary to shew the contrariety of nature between Ideas and their external objects; and accordingly, in his Inquiry, he does this with the utmost perspicuity and knowledge of his subject; yet, if I remember right, Dr. Priestley makes a very rough charge upon him for ever dreaming of a mutual resemblance; as being an absurdity into which no man could ever fall.

† Free Discussion, p. 52.

parts of a body from contact with each other ; or, in different terms, without the sphere of adhesive attraction ; and, a change of place or removal of the parts one from the other. Let us suppose the Monument to be blown down, and a part of it carried as far as to London-bridge ; will our idea of this instance of divisibility have that similarity the doctor contends for ? Are the parts of our idea in contact ? or, Are there spheres of attraction rent asunder in those vibratiuncles which represent the object carried away ? or, Is there a removal in the parts of our idea, and a consequent change of place ? By this way of thinking our brain must contain a little world ; the vibrations in one part of it are a Monument ; and when we chuse to fancy it broken down, a part of it shall actually be carried away to another part of the brain where a little London-bridge stands, and there it must lay. This is a whimsical fancy, and surely cannot be right. I

would not have this to be sound philosophy. An object divided becomes two bodies ; we see two objects, though our idea is not divided in two. The perception is single and uniform. A picture, or nature, presents us with a variety of ideas of figure and colour ; but the variety of this single perception cannot be called divisibility. Dr. Priestley, believing all ideas to be divisible, may talk of a sound and a smell being divisible in themselves, or one from another ; but less violent materialists will see this difference of ideas to be very contrary to the separation of bodies into parts.

As to the proper bodily existence of ideas, it is the most unlucky notion that could possibly have befallen Dr. Priestley's Theory. It must have been conceived and brought forth in a fatal hour. Nothing can be more incongruous to the system of vibrations. That vibratiuncles should
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be themselves ideas is sufficiently odd ; but that the motion of the small chords of the brain should produce and give birth to beings properly divisible and extended, is yet more exceedingly odd. A long life and an active mind must produce such vast numbers, that it is difficult to conceive where they can all be contained. On the doctrine of vibrations, the brain is like a musical instrument ; and the mind, a series of tunes that are played upon it : but, in neither the one nor the other can the music or the result of the vibrations have an existence longer than they are heard or perceived. The same tunes may be repeated ; but their being dies as they cease to be perceived.

I KNOW but of one way by which the doctor can be relieved from this difficulty about the existence of those things which result from vibrations. Mandeville, travelling with some companions to a very northern climate, found the

frost so extreme as to congeal the words as they were uttered from their lips. They talked, fiddled, and sung; but all in silence; till at last there came a thaw; when they heard confused noises in the air, and presently discovered them to be their own music and conversations, which had remained pinned up in the atmosphere during the frost. If the doctor can derive any aid to his theory from a story like this, I shall be very happy in having suggested it to him.

BUT let us leave this view of the doctor's theory, where our mind is converted into extended and divisible matter, and endeavour to find if the reverse prospect will afford us any better philosophy. And here, in his opinions concerning matter, we find him an immaterialist, as violent as the most unreasonable of that sect. Nay, so thoroughly do his ideas alter, that forgetting vibrations and vibratiuncles, and the
 extension

extension and divisibility of thoughts, (which, yet, from the general scope of his writings, must be accounted the doctrine that prevails most in his mind) he admits of a soul or sentient principle, whose nature consists in *perception*.

WHETHER we say that this soul is a *power* superadded to matter, or that it is the result of organization, it is equally different from material bodies, or from any modification to which they may be incident. Thus, after hearing much in a very decisive manner about the materiality of the soul and of its nature consisting in vibrations, we at last learn that the mind is neither a system of vibrations, nor a material substance, but a sentient principle added to a bodily frame. We are then brought back to the common opinion of two distinct natures united in a mysterious way.

By this we see the doctor stands upon a very terrible precipice, in danger of falling headlong
into

into the Scotch philosophy; and compelled to connect these contrary natures of body and soul by the instinctive principles and commonsense which he has so manfully combated; or, driven to the necessity of admitting that two opposite natures can be connected in the way of cause and effect, without any resembling property by which they can act upon each other. The absurdity of doing this has been so clearly and successfully shewn by the doctor himself, that whoever reads what he has written on the subject without being convinced by his arguments, I should deem intirely incapable of speculations of this sort.

THERE are two notions which have done Dr. Priestley very considerable injury; the one is, that the sentient soul can be the *result* of matter; and the other, that this immaterial principle may be a power *superadded* to organized bodies. In every physical process we find the result constant-
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ly similar in nature to the subjects of our experiment. Solid bodies become fluid, and fluids become compact; things at rest may be made to undergo various motions, and those in motion to remain still. All such results are no more than new forms or conditions to which matter is liable; and those changes are produced by the natural properties of bodies acting upon each other, and rise from a conjunction of similar natures. A machine is put in motion, and a plectrum gives a vibration to a chord. We discern the powers by which these are performed; and we can imagine that the vibration occasioned in the air by the action of the string, and the stroke of a clock, may give a similar vibration to the nerves of our bodies. But here the chain of causation ends. Our perception of sound, or the idea of time conveyed by the clock, is of a nature so incongruous to the motion of extended, divisible bodies, that they never can join in the chain of physical causation.

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To preserve the chain of causation entire, we must follow the general scope of Dr. Priestley's doctrine, and account the soul, or sentient principle itself, to be material, extended, and divisible; and, in consequence, proceed to talk with great gravity of its being a thing to be seen, heard, felt, and smelt; and also of the extention and divisibility of heat and cold, of pain and pleasure, and of virtue and vice, these being of a nature sensible, or ideal; and consequently, little scraps of matter. By making the sentient soul material after this manner, we over-leap the difficulty of joining two natures that have no intervening property necessary to causation.

WHEN Dr. Priestley chuses (as at other times he is wont) to account this sentient power to be not actually material and divisible itself, it is then very properly said to be superadded to organization. It may be observed, very pertinently

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in favour of this turn, that it must be the grossest of all absurdities to entertain the flightest notion that a *power* might be a few inches of extended, divisible, and figured matter. If it be not such a thing as this, then there will remain only one difficulty; that of accounting how this power, being of a nature immaterial and incongruous to matter, can possibly be united with it in a natural way.

THIS is indeed a calamitous situation for the doctor; where he must either adopt the pre-established harmony, in which mind is not the result of matter, as he pretends; or, be obliged to solve the affair by means of the instinctive principles which himself has combated so justly. He must not (as he seems inclined) pretend that he is not obliged to account how matter and mind are united. This will never be permitted him by any one who remembers the approbrium he
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has cast on the Scotch philosophers, solely on that account. *

WHILE

* The doctors Reid, Beattie, and Oswald, finding the utter dissimilarity between matter and mind, imagine, in consequence, that the one cannot act upon the other in the natural way; and very properly speak of their union in terms that are different from what are used to delineate cause and effect. Their instinctive principles are very useful in overstepping the *quomodo* of the business, and must be understood as tacitly declining the question. But Dr. Priestley spurns at this supernatural way of connecting body and soul, and undertakes to undo the knot in a philosophical manner. By a curious argument (*Disq.* p. 38.) he proves that the soul must needs be natural—*because it is connected with matter*; and thence concludes them united in a natural way. The doctors Reid, Beattie, &c. not discovering this argument, lay open to the doctor's ridicule, who mocks them without mercy, for not perceiving that mind may be the *result* of matter; and, "that it is no more necessary for bodies to have ideas to raise them in us, than it is for a plectrum to have sound in itself to cause it in our sensorium." The doctor does not see that
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WHILE Dr. Priestley hesitates about the materiality and immateriality of the soul, he is a decided Immaterialist in his doctrines concerning the constitution of matter. From the mind he takes

this is instancing the very point in dispute. No one will refuse to acknowledge that it is no more necessary the ideas of sound should reside in a plectrum, than other ideas in other bodies. He is set no farther forward by this. He shuts his eyes against the difference between the perception of sound and the vibration of a chord; and obstinately declares them to be one and the same thing, *because they are united*. But at other times he acknowledges he knows nothing in the world about this mysterious union; and, when thus Dr. Priestley is brought to the simple fact, as well as Dr. Reid, the difference between them is only in the words they use to express the connection. Dr. Priestley sees no contrariety between matter and mind, and connects them by the term Result; Dr. Reid perceiving their incompatibility, names the connection Instinctive. Those who are able to discover in what a result differs from an instinctive principle, will know how far Dr. Priestley and the Scotch philosophers are asunder.

takes away all active and self-motive powers, and bestows them liberally on every particle of matter; yet there is no topic of argument can be brought against instinctive principles, which cannot be used with equal efficacy to overturn those active powers of matter. But before we consider matter as matter, we must, with the doctor, consider it as being no other than the divine power; or, in different terms, as the Deity himself.*

MATTER, according to the doctor, consists only of active powers; these, like all power, must be the attribute of some being; as they denote

* "The principle objection to this hypothesis is, that matter is by this means, resolved into nothing but the divine agency exerted according to certain rules. But as upon the common hypothesis, it has been again and again admitted, that notwithstanding the existence of solid matter, every thing is really *done* by the divine power; what material objection can there be to every thing *being* the divine power?" *Free Discuss.* p. 250.

note an ability in some thing to act in a certain manner, and are as incapable of existing alone, as form without matter, or motion without any moveable body. Centers of attraction and repulsion not being creatures capable of possessing these active powers, there is no other resource than in saying that the action of these powers is the action of the Deity.

By this conclusion, the existence of an external world is given up, in fact, while in words Dr. Priestley still contends for it. He speaks of the exercise of divine power as of a created thing, distinct from the deity himself. He appears to think of it, as if it stood in relation to the Deity, as our world does to us ; and, as though his action were analogous to ours. As our ideas affect our nerves, they put the muscles in motion, and these proceed to cause somewhat else ; so he seems to think the Deity operates only on the nearest

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circumstance,

circumstance, that acts on another, and so on; each modification of agency possessing a power of causation, in some sort independent of the Divinity himself. We cannot speak on this subject without absurdities that may give offence; but, from the best apprehension I can form of Dr. Priestley's meaning, I cannot help thinking he is misled by some such notion as this. By thus reducing every thing into divine power, the doctor is brought (notwithstanding his dislike to it) to absolute Spinozism. Not only the earth, the sea, and the clouds of heaven, but our own bodies, and our minds, are modifications of the Divinity.

THERE are two opinions which, though opposite, are yet both adopted by many philosophers. The same men who tell us that the phenomena of the world are produced by the powers and properties of matter, we hear declare, at the same time,

time, their belief in every thing being performed and occasioned by the immediate agency of Deity, as though these doctrines were nothing incompatible. This subject has been greatly perplexed ; but it must have been carelessly considered by those who admit of opinions so destructive of each other. The laws of physical nature must either arise from the direct operation of a supreme mind, or from the unalienable properties of matter. Which soever of these opinions we chuse to maintain, we do no more than run the common risk of right and wrong ; but, by admitting both, we intangle ourselves in certain error. If, indeed, the powers of matter be any thing distinct from the agency of the Deity, the laws of nature may originate in one, but surely cannot in both. If attributes have been delegated to, or are necessarily possessed by matter, then causation arises from the action of those attributes, and not from the direct operation of spirit ; but, if every thing

is brought about by the immediate agency of the Deity, then what we call the powers and properties of bodies are ineffectual ; and all the phenomena are independent of their apparent causes, and do not arise from any necessary nature of things, but from arbitrary choice.

THERE are many modern philosophers who reject the doctrine of secondary causation, by which powers are possessed by matter, independent of the original cause, and hold every act of causation to be performed by the Deity himself. Matter, they say, is inert and destitute of active powers, and incapable of motion till communicated by mind or spirit. The leaves that fall from the trees, the animals or the flowers that perish, the ideas that rise in the mind of man, these are all the immediate operations of the Divinity, and not brought about by any intrinsic properties of matter.

ACCORDING

ACCORDING to these opinions, no connected chain of phenomena can demonstrate the existence of a Deity better than one, single and detached. The sensation of colour we receive from the herbs of the field, prove as much as that animals should know them to be their proper food, and that they should be converted into nutriment to their bodies: The existence of a Divinity being established by the first, the latter would, in like manner, convince us of his benevolence.

ON the other hand, the chain of secondary causation is, by others, maintained with the utmost rigour; this doctrine being deemed the support of another of the first importance. It is said, that the best arguments in proof of a divine Creator is derived from the regularity of certain natural appearances, from which we are led to infer, that every thing must needs originate in what

we term a Cause. I am persuaded that the knowledge of a Divinity, as supported by metaphysical arguments, had better be avoided; for they are of less service than disadvantage to true religion. Piety and philosophy are more often at variance than in unity: however, if piety depended on the abstracted proofs of a divine Being, the benefits arising to mankind from that temper would be effectually lost, were the doctrine of intermediate causation fully established.

WHEN we speak of powers or properties in material bodies, we understand that they are possessed by such bodies in an independent manner, whether they inhere in them from necessity, or are delegated to them by some other being. If there be any meaning in the words, it is by those powers that nature proceeds according to its stated laws, and not by any supernatural interference. That bodies fall to the earth, that the sun gives
light,

light, or fire pain, must be regarded as the effects of natural powers; and not that the bodies are carried to the earth, the rays of light uttered, and the pain caused by the immediate agency of divinity.

THIS connection of causes and effects, which is of such imagined utility, proves a very contrary doctrine to what it is expected to prove. Instead of leading to a divine mind as the first cause of what we perceive, it necessarily leads us to seek the causes of every natural appearance, without going beyond the world of matter. By striking a piece of flint and steel together, sparks of fire issue out; these being collected, on the application of an inflammable body, a flame is generated, which consumes wood, straw, and other things; on its being put to the body of a man it occasions pain, and leaves the part diseased; certain things being applied to the part, the pain

is alleviated and the disease disappears. By this connection we are not carried to the mind as the cause of these appearances, but to the proper attributes of matter. We assign the healing of the sore to the quality of the medicine, the burning to the heat, and when we find ourselves at a loss to discover by what properties the generation of heat is performed, we do not say the sparks are caused by the Deity, but that it certainly depends upon some other attributes of bodies; and that our ignorance arises from the operation not being perceivable by our senses, and our inability to render it the subject of experiment. We are not to say the sun is not the cause of light, because we do not see how it originates from him. When causation goes beyond the experience of our senses, it is the refuge of ignorance to have recourse to the operation of the Deity. Uncivilized people imagine the lightening and the thunder to be the immediate act of the Divinity; but by means

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of more knowledge it is attributed to electrical causes. When we can trace the secondary causation no farther, it is most unphilosophical to imagine that it is therefore at an end; and we ought to believe that a better knowledge would still continue the chain. Thus we run on to infinity, looking for the reason of all phenomena in the natural properties of bodies.

WHEN once we find matter possessed of these powers of causation, it is so very violent a leap from any one link of matter to the divine mind, that we are, in a manner, driven to continue expecting the origin of every change in the nature and attributes of matter; and by this means we find ourselves in the doctrines of the eternity and self-existence of the world. Instead of being led by this intermediate causation to the agency of a divine mind upon a last link, we are obliged to deny a last link, and pursue a perpetual routine
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of causes and effects; where each effect possesses powers proper to its nature, and capable of generating other effects with new attributes.

THE nature of causation is very dark and little understood. It may assist in some measure to elucidate it, to observe that under the title of powers, by which effects are produced, there are two kinds easily distinguished and very opposite to each other; the one named active power, the other including all the characteristic attributes of material and ideal nature. We have a clear and definitive conception of the manner in which the powers of the second kind perform their several operations. We perceive the cause by which a fluid impedes a body passing through it; how a soft body is broke in upon by a heavier; and by what reason all the mechanical laws of motion are occasioned; and also understand the aptitude of ideas and motives to produce their proper

proper mental phenomena. When the circumstances are put in train, the new phenomena become inevitable, and we discern the necessity by which the effects originate in their several causes. Sugar is dissoluble by water, and wax by fire. These, among innumerable others, are instances where we do not see in what manner the operation is performed. But we do not thence doubt that there is the same mechanical fitness in the fire and the water to cause their several effects, as in the friction of a wheel to retard its motion, or in a knife to divide a soft body.

THE other species may be called metaphysical, but are usually termed active powers. The material properties are not more easy of conception, than those are incomprehensible. They are moreover, from their nature, incapable of connecting in the system of causation.

IT

IT is said, that all physical knowledge is wholly inexplicable without recourse to some metaphysical data ; that the sensible, material properties, could not subsist but by the various powers of attraction and repulsion ; matter being liable to be so dissipated that not the smallest particles would remain without an active cohesion ; and without repulsion no communication of motion could take place.

THESE are very abstruse and learned doubts ; but before we leave our own world to find a solution of them, it may not be improper to enquire what satisfaction we may expect from our research. As we go with the purpose of discovering the cause of certain appearances, we must attend to the nature of causation, and govern our enquiries by such principles as the constant practice of nature has established.

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It is a grand law amongst philosophers, that no effect can be without a cause. This, surely, is of excellent use in applying to the world from whence the axiom was drawn; but farther than this, it is a blind guide, and can afford us no information. Had Gulliver carried with him to Brobdingnag or Laputa any Bank of England notes, or India bonds, he probably had found that they were not of universal value; so this principle of ours can only be supposed to pass current in the little world we inhabit: yet there are many who believe it will carry them beyond, and flaunt away with it amongst the rest of their eternal principles.

In our enquiries into the mysterious nature and origin of things, it will be more modest and becoming to stop short at this maxim which does not lead us beyond our reach, and is established by every instance of causation: that we may admit

mit no cause intirely diffimilar in nature to the effect assigned. In every mental, and every material change, the phenomenon is produced by a conjoining of analogous natures; and that there must be some intervening property, partaking the nature of both agent and subject, in order to produce a change, is the foundation of cause and effect. This is the bulwark of reason in speculations like these, and such as attempt to overthrow it weaken philosophy, and lay it open to a thousand extravagancies. Should we imagine that every change and evolution of nature was produced by some occult powers, acting not by the intervention of any material property, but by instinctive or sympathetic influence, we should destroy the principle of causation, and teach ourselves to believe that a phenomenon might be without a cause. Such influence could not be called operation, denoting only a sort of harmonious correspondence. But this is amusing ourselves

selves with words that have no meaning ; and, reprehensible as it is, the doctrines concerning the active powers of matter are open to all this absurdity. It is easier to imagine how the stars of the firmament may govern the actions of men, than to conceive how these powers can operate upon matter without any similar property. It is vain to say that we must admit of such powers from the principle of necessary causation, for they are in direct violation to that law by which causes are conjoined to their effects. It is idle to pretend a cause that will not connect ; for it is in connection that causation consists.

THE account already given at the beginning of this essay of the reach of human knowledge, shews it to be limited to phenomena, material and ideal ; and, in consequence, those supposititious powers must be one of these two things ; a subtle matter, or an immaterial soul. Till this

account

account be proved imperfect, and it can be shewn that creatures, neither mental nor material, can introduce themselves to our minds, whether by bodily organs, or by some supernatural way, we must place our active powers under one or other of the great classes of being, unless it be seen that they cannot belong to either.

If those powers are material, be they never so subtle, they must possess the properties common to all matter. They must be solid, extended, figured, and divisible. But still in those properties we find no activity necessarily included. Cohesion cannot be occasioned by extension or divisibility, and as little can repulsion. By a glutinous substance, or a mechanical connection, is the only way to account for cohesion naturally. A glutinous ethereal fluid must be composed of parts like to those it is destined to bind together; in order to bind which we must find another

other fluid still more celestial, and must go on thus *in infinitum*; which proceeding very much resembles the old story told by every philosopher of the tortoise and elephant.

HOWEVER tolerably we may put together the distinct particles of matter, by means of this glutinous fluid, we shall find it utterly incapable of acting externally to produce a repulsion, even when in contact; and much more so to operate upon other matter placed beyond its own surface.

SOLIDITY and extension must in every system of materialism be accounted the constituent attributes of matter. Those properties are dormant and inactive, and therefore matter is dormant and inert. Repulsion and attraction are impressions to which this matter is liable, but can no way be concerned in its existence. Solid bodies cannot act upon other bodies by their solidity, nor

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extended

extended bodies by their extension. Such action must originate in powers extraneous to matter, and not constituting its being.

WE have come then to a superaddition of active powers to matter; and it may be observed that such are very different from the natural or mechanical powers of matter, which form the very nature of their several subjects. Fire burns, and glass is to be broken with a smart blow; but brittleness and heat are properties not superadded, but unalienable.

THESE superadded powers not being material, can be no other than of an ideal or immaterial nature, but of a constitution different indeed from the incorporeals with which we are acquainted. These powers being the beginners of all action, are not subject to be acted upon; and not being affected from without, are uncontrouled by the mechanical

mechanical laws of causation. As it is not imagined that each particle of matter has organs, brains, and vibrations, it remains to be explained of what composition this active soul can be; and as it has not any material property, it must be shewn by what means it can act upon its bodily particle. As in these opinions a kind of action is understood which does not originate in motives, the obscurity must be removed from this immaterial source of liberty, and that without recurrence to instinct, common-sense, or any other preternatural aid. Such is Dr. Priestley's theory, and such the situation from which he remains to be extricated.

THE opinion that matter contains within itself a source of activity, can have arisen only from a superficial and most careless view of the grounds on which this theory is built. Though there are not wanting ingenious and reasonable accounts

of the nature of power, yet it is the popular absurd fancies on this subject that have opened a way to all the errors concerning the motive faculties of matter, which at this time have over-run the philosophical world, to the no small disgrace of a metaphysical generation.

By power, properly so called, we are to understand a Thing or Being, not in the capacity of an agent put into action by somewhat preceeding, but as master of its own activity, and, so to speak, creator of its proper effect. The heat of the sun rarifies a part of the atmosphere, and destroys its balance, when the denser part rushes in upon the rare, and the motion of the current is accelerated till the fluid becomes so powerful as to level strong trees and towers. We say the hurricane is the cause of the desolation which follows it, and that heat causes a current in the air. In this we do not mean to describe active, but passive
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or mechanical power. The force of the storm, and the effect of heat on the atmosphere, whatever new phenomena they may produce, they receive their own motion from some preceeding circumstance, which again depends upon some other. This is far from what is meant by active power.

ACTIVE power requires these two things; a capacity of beginning motion primarily, and a knowledge of the action to be done, and the means of putting circumstances in train to produce the new state or condition, which is termed the effect. From the laws of motion we know that matter, in order to be moved, requires to be acted on from without. We see new motions perpetually taking place among bodies, but we ever have reference to some preceeding circumstance as the cause. This causation is traced up to mind, and we fix it there from feeling a con-

sciousness of an active power, or the ability of beginning motion. But this power of voluntary action, while it induces us to believe that we possess within ourselves a source of real liberty, mocks us with a false appearance; yet it is this imposition which forms the basis of the codes of morality and religion; and, while it deceives us, it renders us more happy and more amiable. In truth, it must be acknowledged, that this apparent liberty of mind is no better than a splendid dream. Some actions follow our volitions, but they make part in a great series in which we are necessarily involved; and our temperament, the materials of judgment and the impulses of passion and affection, depend upon circumstances that rise in manner fortuitous, and to us inevitable.

If then we deny this active power to the mind of man, on what argument shall it be granted
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to each individual particle of matter? After having coursed the commencement of motion up to the mental faculties, shall we, because we cannot find it there, return and invest it in the inanimate part of nature? A degree of intelligence is necessary to direct activity in causation; to bestow this on matter without also assigning it ideas, sensibility, and organs of sensation and action, is to leave the business imperfect. Without these the active powers of matter are useless.

ALL the ideas we form of active powers are derived from what we know of voluntary motion within ourselves; but our volitions, instead of being the beginning of causation, are passive and impelled on by a preceeding cause, which again is driven on by another; from this it follows as an evident consequence, that the very conception of such active power is an imposition of the mind. It is no property of matter to be perceived by any

organ of sensation; and being contrary to the constitution of our minds, it cannot be discerned like other mental attributes; and thus, being neither mental nor material, we can conceive no such thing to exist, and we must exclude it. Such at least must be our conclusions from the evidence before us, the knowledge afforded by our faculties.

SINCE we are incapable of conceiving any active cause, we must never proceed beyond the plain phenomena of nature. When we use the words Attraction and Repulsion, let us be content with thereby expressing different modes of motion, and not pretend to delineate any powers by which we fancy they are caused. When we say it is by the power of gravity a stone is carried to the earth, we are no better instructed concerning the cause than by seeing it fall. While we hold fast to phenomena, whether mental or material,

terial, we stand safely; all beyond is arrogant and unmeaning theory.

By attending to the distinction between the material and those metaphysical powers, we shall be able to cast much light on our question concerning the existence of matter, and I think bring it to an easy issue. To men not accustomed to refine and make a difference between their sensations and the material world, all their original ideas make a part of it, and stand for their several qualities; but the philosophy of this age strikes off many of these; alledging that such ideas are produced by the remaining properties of matter. Here is the commencement of the dispute. We go expecting to have these ideas properly accounted for by the mechanical process of the properties of matter. We are experienced in many cases where the cause is not visible, as in the burning of fire, but we firmly believe that
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the effect is produced in a physical manner. When we go in search of the causes of colour and smell, we likewise expect to find them produced in the same natural way. These sensations depending on the property of solidity, the question is determined by the being or non-existence of this quality; and this having been overthrown, the dispute is finished, except the ground be changed to a very different one from that on which it was begun. If we proceed to contend for the external existence of the world, when it is no longer material, resort must be had to active metaphysical powers, and we must say matter consists and operates by attraction and repulsion; and in short, that matter and mind are simply powers of attraction and repulsion.

BUT the question of an external world is a question of fact, and as such, is determinable by sensation; and must be given up when this fails.

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It is cheating ourselves by mere sounds to support it under the shape of causes that are incomprehensible: but we are led into this error by not distinguishing between the natural properties of bodies and those imaginary active powers, in expecting the latter to have equal reality with the former. The mistake is easily seen by attending to the nature and limits of causation. *We may not admit any causes of natural things that are insufficient to explain their phenomena.* These active or spiritual powers not possessing the proper characteristics required in a cause, are incompetent to produce the effects ascribed to them, and ought therefore to be rejected.

By the doctrine that places the world of matter in our sensations, there is nothing of its reality destroyed. We have seen that all phenomena are no other than our perceptions, and therefore we conclude the world to be what it seems. The
ridicule

ridicule will fall on those philosophers who persuade themselves that sound, and colour, and smell, are actually figure and motion. We have seen also that in following this doctrine we are inevitably led into a bare supposititious theory of active causes. It is only this metaphysical world that is done away by the doctrine I have followed ; and by it the world is brought back to its pristine form, to what it was before it fell into the hands of philosophers,

BESIDES all other difficulties attending the hypothesis of solid matter, the doctrine that supposes all things to be produced by the immediate agency of the first cause, strongly opposes that hypothesis in rendering a solid matter wholly useless. The materialist who believes the cohesion of matter and its various motions to be performed by direct influence of the Deity, much more must he allow the necessity of this interposition

sition to the production of ideas in the mind, to which matter, from its nature, is highly incompetent. From whatever cause, direct or secondary; we say the surface of bodies has a power of reflecting the light, the light a power of communicating a motion to the nerves, and these to the brain; here is the limit of matter and motion; and between this and our perceptions there is such a contrariety of nature, such an impassable bound, that the materialist can never solve it without recourse to divine agency. How frail then is the tenure by which he holds his solid world!

In short, matter is a theory adopted by philosophers to connect the Divine mind with ours; but it is made of such sad materials, that it will join at neither end. It is like a rod of feet and inches to measure time with; a mechanical engine to determine theological points: nay, it cannot be made more ridiculous than by
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being conceived in its own terms ; it is a bridge of matter to connect two continents of soul. On one hand, from a piece of solid stone we are led through a variety of changes, till we find ourselves in mind, and the solid stone turned into a beautiful idea, figured and coloured : on the other hand, we are carried through an infinity of changes and motions, and this solid affair becomes hand and glove with divine agency. Ovid, and our dreams, afford us numerous changes, but none like these. We follow a river through all its windings, and at last it starts up into a woman ; or a fine woman, after much ado, is turned into a river or a cray-fish. These metamorphosis are moderate and credible.

LET us review the subject and the ground of argument on which the foregoing reasoning depends, that by a succinct and comprehensive account of the chief difficulties that attend either
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the reception or exclusion of external matter, we may be the better able to form our opinion.

THE strongest arguments against the existence of a material world are derived from the nature of sensation. 1. No property of matter can resemble sensation, otherwise such property of matter would possess sensation. 2. It appears in fact that they do not resemble it. Scents and sounds do not resemble their respective causes, but are referable to motion. Colour is reduceable to the same; and likewise solidity or hardness. Figure, as discernible either by sight or touch, is known only by a variety of ideas or impressions being included in one perception.

INSTANCES are adduceable where the idea of solidity is occasioned without bodies coming into contact with our organs. It does not therefore necessarily depend upon body. No instance can
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be given where this idea is produced by contact, therefore we ought to conclude it independent. But as resistance or hardness is produced by power or motion, and does not represent texture on which solidity is imagined to depend, it is not only useless, but from its nature can never be known.

MOTION is no more than a succession of ideas, a mode of sensation. If hardness, sound, and colour, do not inform us of any real properties, alternations of those ideas cannot imply any.

It is utterly impossible to obtain any knowledge of power or agency. Our organs can only discern phenomena; not the causes of phenomena. When we say that any thing is caused, or that one thing generates another, we can only mean that we have seen such things preceed and follow each other. A philosopher ought to observe

serve facts and not adopt theories. Our sensations are the phenomena ; matter, the pretended cause of sensation, is theoretical.

By admitting that our sensations are caused or created by properties of matter, and that matter is invested with powers which generate perpetual changes in itself, we admit an infinity of supernumerary causes, which are independent of one first cause; or, they may more properly be said to exclude an original cause. Likewise, these causes are of a nature that cannot operate upon mind.

THESE are the chief difficulties that attend the doctrine of external matter, but there are others of no small weight. If we adopt the doctrine of solid matter, which is the only consistent scheme of Materialism, two opinions occur. According to all appearances, we are led to conclude that

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matter

matter is divisible to infinity ; which implies this odd absurdity, that it is capable of a perpetual decrease and approach to a point, to an end, to nihility, without ever drawing nigher to it. By the theory of solid, indivisible atoms, it escapes this absurdity on one hand, but falls into it on the other. It supposes an infinity of hardness beyond infinite power ; it must, in consequence, be indissoluble and eternal.

ON the contrary, there is nothing can be urged in favour of this doctrine but what may as well be advanced, and what ever has been advanced in support of every opinion, however erroneous, when it has long established prejudices on its side, that the new doctrine is improbable, unnatural, and contrary to the common sense of mankind. Every one will recollect an hundred instances where this has been the plea of ignorance and error against knowledge and truth.

Indeed

Indeed this is so commonly made the resort of such as find their opinions no longer tenable, and are yet too obstinate to relinquish them, that men who assume the character of candour and impartiality, will never recur to this method of subduing an opponent. The train of thought or reasoning to which we have been habituated constantly appears to be dictated by truth, and every thing opposing this will of course appear unnatural. When once the theory of a system is well in-wrought with the facts, they appear to us like the foundation of the facts; and we expect, that without this foundation the facts themselves must come to ruin. But the mind is fruitful in resources, and will always accommodate itself to its situation. While the facts remain, it will provide a basis whereon to build them, and become satisfied with a second theory as well as with the first. There is nothing wanting to a doctrine but an opinion of its truth, when the mind by

new habits will learn to regard it with confidence and fondness.

THIS is particularly the case with the doctrine that denies an external matter. We have been so long accustomed to account for our sensations and ideas by this cause, that when it is removed we can scarcely persuade ourselves to have any confidence in the phenomena of sensation. All appears like a dream ; and we can with difficulty believe that what we hear, see, and feel, has any existence, if it is not to be caused by this matter. Grave men cannot believe it, the superficial blunder in it, and the subject has been fly-blown by the wits. These last will needs imagine themselves in jeopardy at setting foot upon a world so unsubstantial. Solid ground is then a mere idea, incapable of supporting a stout man, and they are afraid of sinking into it ; but, by and by they become terrified lest their tender heads be damaged against a massy idea that may be hanging

hanging in the sky. Thus, like well-fed horses, they amuse themselves with starting at a goose or a white stone, which proves their mettle better than their sagacity.

IT is from misapprehension that this turn is given to the opinions which exclude the existence of an external world. These make no alteration in the authenticity of facts. Every thing remains in the state in which it has been since the creation; nay, instead of losing by this doctrine, we have gained considerably. According to the present state of philosophy, our world is deprived of scents, of colours, of heat and cold, and many such properties. The new doctrine reinstates all those in their former existence. According to it the rose smells sweet and looks beautiful; the brook is again possessed of coolness; and trees, that before had only a texture of parts, resume their beauty of colouring. By the philosophy of the day there is nothing exists but mere soli-

dity and space ; the individual properties of matter are excluded. The foregoing opinions bring the world back to the popular view of things ; only with this reserve, that we must not look for original causes. It is this pursuit that has cost honest men their world. They would needs deny that colour was colour, and heat, heat. They called it matter and motion, and there they thought they had the very truth. Alas ! the cause still fled before them ; and after having given up property by property, they are obliged to return to their old ground without any better skill in causes than when they begun their research.

NOTWITHSTANDING the simplicity and clearness of the doctrine, and all that has been said in its support, there is reason to fear that this gross world will continue to be a clog, no less to philosophy than it has been to piety. Even those who

who may in their closets arrive at so happy a pitch of abstraction as to consider the objects of sense as all delusory and vain; yet on returning to common life, we cannot hope that by the purest piety or philosophy we shall ever be able to divest ourselves intirely of every attachment to this earth. Its power upon our minds has insinuated itself into all our views; it is in-wrought with all our passions, and fixed by habits of association that will never be eradicated; and we may not expect, while life remains, that our struggle will cease.

Like a true sage I have endeavoured to point out the truth, to place it upon an immoveable basis, and separate it from the idle fancies by which mankind are led astray. But though it belongs to the sage to utter the documents of truth, conviction depends upon capacity, and this the sage has not to bestow. Like every metaphysician, I am certain and clear in my opini-

ons ; yet I greatly fear that, together with many other discourses on the emptiness of the world, all I have said will be in vain. They will go every man a wandering after his own imagination. One will go to find perfume in a rose, independent of perception ; a second to find coolness in the brook ; another to find solidity in the oak ; *this* to find sound in a fiddle string ; and *that* to see colours in an evening sky. None will believe the word of a philosopher that these things are not what they seem ; that it is in mind only where sensation dwells ; and that they ought to look up to this as the sole source of pleasure and pain.

A TALE.

THE UNIVERSITY OF CHICAGO

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A T A L E.

AS any study or science is advanced by habitually conversing with whatever belongs to it; and as nothing tends more to a clear knowledge of a subject than an opposition of opinions, by which we are driven to think and judge without direction; the following tale will be no improper sequel to the preceeding essay. Those who are inclined to metaphysical speculations will easily discern where, and how far, they are connected; and to those who are not, any elucidation would be useless.

IN Hindostan the souls of brutes are promoted to the bodies of men; and the souls of men, for misdemeanours they have committed, are made to inhabit the bodies of inferiour animals.

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In the depth of a forest in this country there lived a Monkey, who, before this last step of transmigration, had occupied a human tenement. He had been a Bramin, skilful in theology, and in all abstruse learning. He was wont to hold in admiration the ways of Nature, and delight to penetrate the mysteries in which she was enrobed; but, in pursuing the footsteps of philosophy, he wandered too far from the abode of the social Virtues. In order to pursue his studies he had retired to a cave on the banks of the Jumna. There he forgot society, and neglected ablution; and therefore his soul was degraded to a condition below humanity. So inveterate were the habits which he had contracted in his human state, that when he was made Monkey his spirit was still influenced by his passion for abstruse study. He sojourned in this wood from youth to age, regardless of every thing save cocoa-nuts and metaphysics. As in his human state he paid
not

not due attention to his kind, so also at this time would he have been equally neglectful, but the blessings of children and grandchildren were forced upon him by particular injunction. He was highly indebted to the affection and care of a little grandson; who, of all his progeny, was the only one that remained to provide him with food, which he was unable to procure for himself; he having become decrepid, hypochondriac, and half blind with age.

THIS old animal took great pleasure in having this grandson sit beside him, and listen to the instruction he poured forth. The young monkey had much patience, but little docility. What his grandfather regarded as the produce of a genius the most penetrating, and which elevated him in his own esteem above the philosophers of his own, or of the human race, the young Monkey attributed to the imbecillity of age. But by
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giving ear to his grandfather's favourite topics; from motives of complaisance, he at length began to entertain a fondness for them himself. Yet could he never clearly comprehend the whimsical notions his grandfather imposed upon him with so much eagerness; and his enquiries were perpetually checked by paradoxes.

THOUGH all the faculties of the old monkey were impaired, he would constantly dictate about the objects of the senses, and hold long discourses upon things he could neither see nor feel. This the young one (not being destitute of vanity) took very ill; and was unable to forbear hinting sometimes, though in a manner very respectful, that he could not conceive there was any way of seeing without eyes, or feeling without fingers. When he thought the evidence of his senses too grossly contradicted, as when his grandfather would assert that the sky was not blue, or that
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the food he was fed with had no sweetness in it, the young one could not help sometimes accompanying his acts of kindness with a jest that quite destroyed the value of them. At those times the Bramin would cease to philosophize for a day or two, unless an obliging question, or the hint of a fine argument, proved a temptation too strong for him to remain silent.

ONE day, being seated at the foot of the tree where he usually abode, having his right hand resting on the shoulder of his young favourite, and his left ready to support an argument, or grace a period; and finding himself disposed to speculate with alacrity, he began to exclaim against the fraudulent practices of Nature. He exposed her prevarications in dealing with her creatures, in causing them to believe one thing while she meant another, and even suffering them to go out of the world the dupes they had lived in it.

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“WHEN a philosopher,” said he, “like myself appears, capable of instructing deluded mortals, it might be expected that he should do much toward undeceiving them. But instead of being exalted above his race, and holding every ear in his hand, he is decried as one unfit for society; and when he should be the ruler of his kind, he is esteemed an object of compassion to the tender-hearted.”

“BUT thou, my son, would I gladly make the depositary of my treasure; of that treasure which I have discovered by the subtlety of my investigations. Receive it, for it is invaluable.”

“REACH hither, my son, yon stone half covered with moss, that I may discourse to thee concerning its nature; and demonstrate to thee that the moss hath no softness in it, and that the stone is neither hard nor cold; with divers other mistakes

mistakes thou hast been decoyed into relating to thy feelings."

"WHAT stone and what moss, dear grand-fire, do you talk of? A Monkey of good sense would be admonished by the errors he falls into. You will never depend upon the goodness of my sight, though you have lost your own. What you now point to is no stone with moss upon it, but the first of the Sewalic hills. One side indeed is craggy, and the other covered with wood. If you desire it I will call the one a little stone, and the trees that are on it moss."

"AH me!" cried the old Bramin, "what a world is this! How inhuman is this knavery in nature! Have I philosophized so long and am yet abused? What then must they be who credit all they see and feel? Here, my son, is a new instance how various the aspects are that nature

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puts

puts on at the same time to different eyes. To me this object was a mossy stone; to thee a mountain with a forest on its shoulders."

"REVEREND Sir," said the young animal, "the mountain is the same; the variation is only in our sight. My eyes (thanks to the giver) are very good."

"I TELL thee, young fellow, thou errest," said the old one. "Can the two different things which we see be the same? If thou approachest nigher to the mountain, so much will it alter to thee in figure and size, that it will not appear to be the same mountain. Can the same thing be of different colours, and at the same time be little and large?"

"THE mountain remains the same," replied the young Monkey. "It is only thro' the imperfection of our sight that it alters as we retire to a distance from

from it. When we are at a distance our prospect is not accurate, but when we are near our views must resemble the object. Only a small part can be near the eye, and the rest must be false; so that nothing can appear of its full size."

"Then," replied the other, "granting we can never see the true size of any thing, we can be quite certain by measuring it." "Ah! my dear boy!" said the old Monkey, "there thou errest again. Should we two measure this mountain, by travelling over it from one side to the other, thou wouldst think it little while I thought it enormous." "In this instance also," said the young one, "you are deceived by your imbecility." "But should I," returned the old one, "together with every old Monkey, on repeated trials, continue to think it larger than it may appear to the dexterity of youth, would not its size be different in our minds from what it would be in your's?"

"THE mountain must remain the same," said the young one.

"BUT are not the judgments of the old and the young contradictory?"

"THERE is no accounting for the caprice and obstinacy of old people," replied the young one, "but this makes the mountain neither less nor larger. Their ideas of it may be vastly altered, yet still it is no more paces across when trod by the old, than it is when the young walk over it."

"MY dear boy, you have ruined yourself by acknowledging thus much. You have admitted two ways of ascertaining the bigness of an object; the one by a comparative mensuration, the other by opinion." "I see no danger," replied the young Monkey, in this. The one relates to the real state of the object, and must be true; the other to an adventitious change, and may be false.

false. To the insect that creeps, or the bird that flies over the mountain, the task is more or less arduous, but the mountain remains equal in bulk."

"To whom is it the same?" returned the old one. "It always appears of equal bulk to the bird, and the same number of certain paces will always compass it, which makes it the same to the insect. It may constantly be the same to each separately; but on comparing the ideas of both, they are widely different. What appears a hillock to the one will be a mountain to the other. The two ideas will be as opposite as large and small can make them."

"STILL," persisted the young Monkey, "the mountain remains the same; so many steps of the smallest insect corresponds with the pace of the largest animal." "My dear fellow" returned

the Bramin, "observe this important distinction. Thou confoundest two things in one. Yon mountain will always correspond with so many of thy steps, and so many of the smallest insect. It will certainly bear the same proportion to thee, and likewise to any smaller creature; but this relative mensuration thou must not mistake for actual size. The whole scale of proportion is different in the one from what it is in the other. To the largest creature, and to the smallest, a hill of a certain bulk is not the same object to both; it conveys different ideas to each. Dost thou think that an object can have contrary properties?"

THE young Monkey knew not what to answer. But when his grandfather asserted that there was no bulk nor size in nature, he thought some freaks of dotage had intermingled with his illuminations of spirit.

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“EVERY rank of being,” continued the old Bramin, “has its scale of relative proportion; and the large, the mediate, and the small, are the same ideas in every different scale. The smallest berry is no more in actual bulk than the largest planet. To the mind that receives them both, they stand in different parts of the scale; but to different beings they do not occupy the same degree in their proportions.”

THE young Monkey continued silent, because he feared his grandfather was going into his old fits; but the Bramin attributed it to the force of his arguments; and thinking it a proper time to overpower him with conviction, settled himself in an argumentative posture, and continued his discourse.

“OBSERVE,” said he, “what I am about to say, for it importeth much. Know, then, that

Nature hath no difference of big and little; with her large and small are the same. Every part is as large as the whole, and the whole as small as a part. Relative proportion belongs solely to mind."

THE young Monkey expressed some signs of uneasiness, which the old one perceiving, he required him to be patient and attentive. "Here, said he, is my proof. When thou sayest that this pebble is less than yon hill, thou art right, if thou meanest thereby to make me comprehend a difference between two of thine ideas; my apprehension being the same with thine, I comprehend thee perfectly. Thou meanest that there is a greater number of parts discernible by thy senses in the hill, than thou canst find in the pebble; but thou must take notice, that there cannot really be a greater number of parts in the one than in the other. As many parts as thou
canst

canst find in the hill, so many can be found in the pebble by that creature in whose mind thy pebble is as a mountain. Therefore large and small is not a difference in objects, but in ideas. Bulk cannot increase beyond the reach of thy senses or thy imagination. Beyond that thou must have recourse to a different order of beings, or what thou callest a larger order, to comprehend what exceeds thy grasp of mind; and then a different scale of proportion begins, and thy large becomes small."

"It is the same," continued he, "in the diminution of nature. Bulk or Minuteness goes no farther than the comprehension of each rank of creatures; and big and little is the same in every different scale. Thou sayest, and rightly, that this scale of proportion may be various in two creatures of the same rank of being. To age and to youth the same hill appears of different bulk.

bulk. Thou sayest the hill remains the same ; meaning, that it is still to be compassed by an equal number of steps ; but the greater effort in the one than in the other magnifies the whole scale. The mountain alone does not increase in bulk ; but the increase is no less certain because every thing is equally increased. Opinion has the same effect upon what thou callest the real bulk of objects, as the approaching to them, or the receding from them, has upon the sight. Nature cannot have real bulk for the reasons I have given thee."

"BESIDES," continued the old Bramin, enforcing his opinions with an argument of another kind ; " besides,"—said he, laying his hand upon the young one's head,—" here, as thou knowest, is the dwelling place of thy spirit, the corner in which it receives the various samples of the fine things thou seest and feelest about thee : canst thou

thou think," continued he, patting the little one's skull with the utmost benignity, "that this place, which is no larger than the pulp of a cocoa-nut, can find room for any thing so large as yon mountains? Are thine ideas of equal bulk with them? If every hill thou hast seen, and every valley thou hast travelled over, be contained in this little place, canst thou not believe that a part is as large as the whole?"

"THOUGH the idea cannot be the same in bulk with the object," replied the young one, "it may resemble it." "Figure," returned the Bramin, "may be the same, whether it be large or small; but the bulk of an object cannot be imitated by any thing less than itself." "Notwithstanding all that has been said," returned the young one, "I must believe there is somewhat infinitely little below me, and infinitely large above me, that does not depend upon my way of thinking."

thinking." "Then art thou" replied the old one angrily, "in the middle between two infinities. The largest and the smallest creatures are in the same situation; each one of you are in the middle of infinity, yet at an infinite distance from each other. Thou mayest as well imagine that the first monkey in paradise, who afterwards became Dr. Donne, the divine, was a little nigher to the hither end of eternity when he was an English poet, than at the time when he was killed for a *faux pas* near Damascus. My dear boy," continued the old Bramin, "thou art an honest fellow, but no philosopher."

So saying, he broke off the conversation; and being thirsty, rolled himself down the bank to a stream that ran past, where he laid down his head, and drank, as a philosopher would drink, who had no better means of quenching his thirst.

THE

THE young Monkey went his way to his ordinary amusement, not perfectly clear in what his grandfather aimed at. "My Common Sense" said he "is shocked, and the hair of her head stands on end at his conclusions. I fancy (continued he) there is one place of the brain set apart for metaphysical ideas, where, if the soul does not keep a sharp eye over them, to prevent their coming abroad, they break out like evil spirits, and make all this hurly-burly that I see in my grandfather's head. Many of these are the produce and begotten of his own soul; and he is therefore unable to keep them in proper discipline, but suffers them, in pure fondness, to wander about, when they either lose themselves, or return again with nothing but trash upon their backs."

HE saw the danger that arose to such as entertained ideas of this species, but he was not admonished

admonished by it. He had got a metaphysical distemper, which he would needs increase by travel. He was desirous to encounter some other philosophers, that he might discuss with them the sublime subjects his grandfather had opened to his mind.

Not knowing how long his adventure might detain him, he laid in a stock of provisions at the foot of his grandfather's tree, and began his walk what time the sun had performed a fourth of his. Near home he met with nothing worthy the attention of a Monkey travelling in search of philosophy. He was crossed in his way by a Tartar of Samarcand in quest of a war, and a cloth-merchant travelling to Surat. Neither of these he accosted, supposing them incapable of receiving the doctrines he had in his possession. "Poor souls, (said he) they would never believe that their heads are as big
as

as their bodies, or one web as long as an hundred."

Soon after he was passed by a hunting party, and he was in danger from the malice of some of the slaves, who shot their arrows at him; but he had so much agility and philosophy, that he was unconcerned at their attempts, and contented himself with throwing fruit at them.

When these were past, he came to a place where one of the dogs lay wounded. He went up to him, sat down by his side, and began to open the mouth of wisdom. He inquired to what sect of philosophy he belonged; whether he believed the world to be solid or immaterial, composed of vortexes or spheres of repulsion; whether he took the soul to be an Eolus' harp, and all the fine things in it to be vibratiuncles; if he did not think Conscience was the best teacher

teacher of the mathematics ; fluxions and the theory of vision decideable by common sense, and algebra by intuition ; whether abstract truth and virtue could reside in 'Venus' or Saturn's ring, provided they had no intellectual tenement on earth ; and adding thereto, by way of consolation, some strictures on the nature of pain from Epictetus : he remained silent, expecting the tongue of science to move within the lips of the wounded dog.

HIS pearls were dropt into the ear that heeded them not, and the water of Disappointment was cast in the face of Hope. The dog was passing ignorant in metaphysics ; his soul had never been promoted to an human case but once, and then he was an Afgan soldier, that knew no more than the horse he rode concerning vibrations or spheres of repulsion ; so all the learned interrogations of our Monkey were
made

made in vain. The dog, all smarting with his wounds, and fuming to be thus pestered with a poppingay, answered he knew not what; that boars were confounded scoundrels; and that all the monkies in the world would do well to drown themselves. At this our philosopher leaped up, called him an unhandsome savage, and left him to pursue his philosophical journey.

EVENING came on while he ascended a steep hill, where there were many rocky precipices. As he proceeded, he approached toward a part from whence he heard the sound of voices, as of some in sober conference. He could not see from whom the voices came; but he heard distinctly that the subject of their discourse was on the forms of things, and the nature of light. This was the object of our philosopher's journey, so the wings of gladness overshadowed his heart. He got from among the trees which

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obstructed

obstructed his view; and clambering up an eminence, he discovered the personages whose voices he had heard. He perceived, upon a flat part of a rock, a strong Eagle crouching, having one wing spread, by which he covered a fissure in the rock, in which place there hung a Bat.

THESE two creatures were wont to hold scientific intercourse, when the day was too far gone to permit the Eagle to be abroad, and the night not near enough for the Bat to take his pleasure in the open air. The spreading of the Eagle's wing was in order to prevent the weak eyes of the Bat from being offended with the light. "Ah!" said the young Monkey to himself, "what a blessed thing is this philosophy, when these animals, instead of envying or upbraiding each other for their eye-sight, live thus in amity by its influence!"

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HE drew near, and climbed up the rock at the hazard of his neck ;—to such dangers will the thirst of knowledge lead us. Having reached the spot, he paid his compliments, and was invited to sit down, when the discourse went on. A difference had arisen between them from each making use of the term *Light* to signify sensations that were opposite. The Bat asserted that light was the most odious of created things, and constantly attended with pain. The Eagle, on the other hand, described the beauties of light and colours in a stile so enchanting, that our friend was quite ravished, and thought the Bat the most miserable of all animals, since he could see none of those delightful effects that Eagles and Monkeys see. The Eagle moreover affirmed, that whenever the Bat mentioned light, he observed it was no more than a more moderate shade of darkness.

THE Monkey perceiving they judged from different scales of light and darkness, thought

this a good opportunity to introduce his grandfather; and mingling in the conversation, told them he thought he was able to settle the dispute. "Whenever," said he, "any matter of this kind occurs, when ideas are raised in different minds which are opposite to each other by the same object, you may conclude there is no such quality as each contends for. Nothing at the same time can possess contrarieties. Besides," said he, "it supposes an infinite progression, and that each of you are in the middle, between infinite light and infinite darkness, and are yet at an infinite distance from each other."

"CREDO quia impossibile est," said the Eagle. "I draw from thence a proof of its existence; and not of light only, but of the existence of all the other properties of matter; though in this point I differ from the rest of my sect, who have not been careful to examine."

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THE singularity, the abruptness, the air of greatness and of learning which accompanied the opinions of this Sage, sent our philosopher floundering ten thousand fathoms down the gulph of humility. When he recovered sufficiently to address the Eagle, he begged with reverence to know what sect he honoured with the concurrence of his opinions, and what were their tenets.

“THE doctrines of my sect,” replied the Eagle, “are these : that the intelligible essences of things or abstract ideas, are the only habitations of truth, and the only objects of knowledge ; that these are invisible, incorporeal, eternal, incorruptible ; above all motion and mutation ; making up together a Being called an infinite reason, or *νοον*. These intelligible species,” continued he, “are the originals and exemplars of all created existences. Every soul or mind is impressed with these at the commencement of its existence, and they lie

folded in the constitution of our minds. Embrio energies, pre-determined tendencies to action, arbitrary senses destined to dictate in the beautiful and the moral species, with all the powers, faculties, and future possessions of the soul, lie hid like the seeds of plants; and circumstances and occasions ripen and unfold these intellectual germs."

"I know nothing in the world of these intellectual germs," said the young Monkey; "my grandfather never told me a single word of such things." "Then, my good Sir," said the Eagle, "as Plato says, your grandfather must be a grovelling and an earth-born fellow, to admit nothing but what he sees and handles."

"Alas!" returned the Monkey, "it would be happy if he admitted even so much; but he is wont to bereave me of every thing I lay my
eyes

eyes or my hands upon ; and sometimes leaves me not an inch of earth on which to rest my foot. But I request you will speak a little more of those same things, that I may become acquainted with them. If I have any such grand affairs in my mind, I should be glad to know them from the grosser part, that I might pay them all due respect. Which be those eternal incorruptible entities we carry about with us ?”

“These are they,” said the Eagle. “Duration, Vacuity, Truth, Possibility, Equality, Causability, together with many more ending in the same manner; in short, everything of which immensity or infinity may be affirmed.” “Certain of these,” said the Bat, lifting up a feather of the Eagle’s wing and nodding to the Monkey, “certain of these are picked out by the philosophers as a present to Bismou, to wear when he

swims upon the beetle leaf.*" "Peace, hairy brute," said the Eagle, "and give ear to me."

"THESE are distinct beings," continued the Eagle, "each one the exemplar and head of its own order, and all residing at the same time in every mind. They are totally separate in their nature, but conjoined by another eternal, self-existent, incorruptible Being called Unity; when they become one, not congressionally, but simply. These are the sublime principles of my sect. Here you perceive the soul holds communication with nothing inferior to itself. Her head is lost in immensity; infinity is beneath her feet, and on each hand an eternity."

"DOUBTLESS

* It is the custom of many English sages likewise, to clothe their infinite reason with some of these things. Cudworth, Harris, Clarke, and many others, are very notable on those subjects, and worthy to be consulted.

"DOUBTLESS you are a great Sage," return'd the young Monkey; "my grandfather was not half so profound. But in what, great Sir, (said he) do you chuse to differ from those who hold all these grand things? In truth my ears are yet tingling with the sound of their names. You were pleased to say that you could prove the existence of light and other matters from the impossibility they included. Entertain the immense benevolence for a moment to explain how this can be, that I may return home with a merry heart, and tilt with my grandfather at the foot of his own tree."

"THOSE of our sect" said the Eagle, "have an unaccountable antipathy to the world of matter, and have been guilty of great injustice to it; yet they cannot find in their hearts to cast it entirely away. They call it the outcast of creation, the sink of abomination, and the enemy
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of souls; but herein they deviate from their principles, and manifest a spirit of malignity towards an object worthy of better treatment."

"COME now," continued he, "let us reason together. I will ask questions, and do you answer according to the usage of philosophers. Thou knowest what solidity or impenetrability means." "Yes," replied the other, "it is that property by which two bodies are incapable of occupying the same place." "Right," replied the sage. "But observe, two Beings, for instance, Body and Space, Space and Unity, and so forth, may actually be in the same spot, but two bodies cannot."

"Is not this solidity" continued he "infinite?" "Truly, and upon my word," replied the young Monkey, "I believe not." "Go to," said the Eagle, "Examine thy mind;

mind; there thou wilt find this intelligible species." "True," returned the young philosopher, "I have this idea you speak of; but if it do not correspond with that property in matter, am I not to account the idea false?" "Certainly not," replied the other; "it is intellectual, and only awakened by means of the hardness we feel in bodies. Being intellectual, it is perfectly obvious to Intuition, Instinct, or Common Sense. Contemplate this idea of solidity, and you will find it unalterable and incorruptible; and, in consequence, must have place among the eternals and self-existents."

"In the same manner," continued he, "the forms of things that appear to our senses are imperfect and transitory; but they also awaken their intellectual exemplars, which would have slept for ever in the mind, were they not roused
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by things from without. Triangles, squares, parallelograms, start forth, and assert their claim to immutable being."

"BUT," continued he, "it is chiefly against colours, sounds, heat, and such-like qualities, that the shafts of philosophical malice have been thrown; and these I take under my peculiar care. Repeat what you asserted concerning the progression of light." "Why," said our philosopher, "the infinity of light is exemplified in the difference between your organs and those of your friend. The degree that appears to you to be utter darkness, is to him noon-day; and the shade he names darkness, to other organs may be intolerable light. In the same manner proceed we in the upward series. But this leads to contradiction."

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“ THIS light,” said the Eagle, “ according to our abstract idea, is infinite ; we cannot divest ourselves of it ; it is simple, unalterable, and I make not account of the difficulty. This being a composition of colours, we presently obtain an infinite red, blue and yellow, all incapable of decay. The sensations that first awakened them change, but themselves are unalterable and eternal. The same reasoning holds of the ideas of the other properties of matter, smoothness, softness, sweetness ; also of those raised by tastes, scents, and sounds : they are all above mutation or decay.” Here the Eagle paused, and the young Monkey meditated.

OUR philosopher began to recover from the astonishment into which he had been thrown by the splendor of the sage’s doctrines. He took heart to question him concerning some difficulties that had arisen in his mind. “ Are

Virtue

Virtue and Happiness" said he, "Beings like those you have described?" "Undoubtedly," replied the Eagle, "they are infinite, eternal, and self-existent." "How" said our friend, "do you prove this?" "Abstract Virtue and Happiness," replied the other, "are unlimitable. When we contemplate one Virtue and one Happiness, we cannot imagine a second; for that would be a contradiction, and they would differ from themselves. Whatever is infinite cannot be annihilated even in idea, and therefore is eternal and self-existent."

"I AM troubled," said our philosopher, "left by these arguments you conjure up some evil spirits, and confer on them much more than they deserve. Abstract Vice and Misery are unlimitable; each of them is possessed of unity, which, you say, precludes a second. As Virtue and Happiness cannot be annihilated even in
idea,

idea, neither can their contraries." "Why then," said the Eagle, "we must unite all these things, and make a Devil of them." "But, my dear Sir," replied our young philosopher, "you render him self-existent; have a care what you do." "Right, right," replied the Sage; "I shall dispose better of them to-morrow; it now turns dark, and I cannot see my arguments."

HE was about to set off to his nest, when the Bat stopt him. "My dear friend," said the ugly animal, "have the goodness to answer me a question or two before you go." "Be quick," returned the Eagle, "and I will refuse you nothing." "What then, are those forms," said the Bat, "which you spoke of a while ago? Pardon my eye-sight; you know it is weak; when I go abroad I see nothing but roundness. Pray explain to me the nature of Figure."

"MATTER,"

“MATTER,” replied the Sage, “is divided into various portions ; and being thus separated, it is necessarily bounded on all sides. Inequality in the boundaries constitute the difference of forms.” “In what manner,” said the Bat, “is this separation discovered? I judge but imperfectly, my eyes being dim, and having no hands to feel.” “Difference of colour” replied the other, “ascertains figure to the sight ; hardness and softness, roughness and smoothness, to the feeling.” “Then” returned the other, “forms cannot be perceived but by a variety of those sensations.” “No,” replied the Sage. “The figure of a stone” said the Bat, “is according to the surface where the stone is separated from the surrounding air ; and is to be discovered only by different degrees of hardness and softness. See, my dear friend, to what you are brought. Hardness and softness are but modes of finite feeling, being nothing but as they are felt.

Figure

Figure depending upon this, you have denied that it can be received by any but finite minds."

"It is the same" continued the Bat, "with motion. This requires a mind stationed in a certain spot, to receive the impressions of bodies changing place and moving past. Motion could not be perceived by a mind equally diffused through matter, because no one part could change its place with respect to such a mind, in which change alone motion consists. So much therefore of the operations of this great world as depends upon motion, is not naturally discernable by any but finite minds."

"My very good friend," said the Eagle, "you are misled by Aristotle, because you understand him not. Though he"—"Now, upon my honour," interrupted the Bat, "and by my father's beard," said he, with all imaginable candour,

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"I have

"I have never read Aristotle." "Our sect," said the Eagle, "do not obtain their ideas of figure, nor any other of their ideas, from experience in the world of matter. Sensible objects, though they be the destined medium to awaken the dormant energies of man's understanding, yet are those dormant energies themselves no more contained in sense, than the explosion of a cannon in the spark which gave it fire. When once the material world has lighted up the intellectual one in our understanding, you may do with the former what seemeth good to you afterward." So saying, he rustled his feathers, dropt from the rock into the air; and the sound of his wings was as the voice of many waters.

THE Bat and the young Monkey continued their conversation, and detraction supplied the Eagle's place. The Bat was not of his sect; and the Monkey thought him more mysterious

rious than his grandfather. "Your friend," said he to the Bat, "has a very pretty taste for poetry." "And his philosophy," returned the other, "is not that convincing?" "I left home," said the Monkey, "to learn metaphysics, and not the fine arts. Truth, and not Beauty, is the object of my travels." "Trust me, my young friend, you had better give over your search. You go expecting to find a very fine female, with a complexion that never fades, garments that never grow old, and ornaments never unfashionable. Metaphysics is an old hag that may lead you to your mistress; but beware, lest she pilfer all her ornaments, tear her garments, and taint her complexion."

"SHE will yet be divine," said our philosopher. "Yes," returned the other, "but it is the divinity of the Sybil; her immortality is a curse. Instead of auburn locks gathered by the simple
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 fillet,

fillet, the Spartan mantle, and the Doric air,
beware lest you find a wretch chopt and wrinkled,
with a spirit as ugly as her corpse, together with
the honesty to confess all vices, and a constancy
that precludes a change."

"HEY day!" exclaimed our philosopher, "my
good Sir, what are you about? Whither are you
going? This is not the object I seek after."

"Be cautious then which way you tread, or
your philosophy may mislead you, and palm upon
you such a creature as this. You want a very
fine girl I see. Take my advice: receive this
poetico-philosophical damsel you heard described
by my good friend the Sage, that left us just now."

"PHO! pho!" said our friend, "you are merry.
That was a thing without head or tail. The
poetry and philosophy did not unite. They were
crude and unmixed, part iron and part clay, like

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Nebuchadnezzar's image." "Nay, nay," returned the other, "you must acknowledge it to be sublime." "In truth," said the Monkey, "I did not understand it." "Therefore," replied the Bat, "it is the more as I say. Obscurity is a great source of the sublime. Eternity, infinity, immensity; are not those the most sublime ideas that move the hearts of finite creatures? And does not the grandeur of these arise from their obscurity? It is the grasping of the mind at superior objects; a copying with things that are yet beyond the utmost bounds of our faculties, that constitutes the sensations of sublimity."

"Did you not observe," continued he, "the eyes of the Sage sparkle with the grandeur of the ideas that employed his mind? Had they been fathomable, think you, he would have regarded them with equal admiration? What is well
O 3 known

known becomes familiar, and ceases to elevate us with rapture. Therefore, my friend, if you would be happy, imitate the Eagle; soar into the regions of sublimity."

"ALAS!" said the Monkey, "I cannot soar like him. I must needs cling to the ground. Nature has made me to grovel here. If I climb to the top branch of a tree, and let go my hold, I must descend to my mother Earth."

"ALL that we can do," returned the Bat, "it seems, is to envy the Eagle, whom we cannot emulate. All his actions and ideas are filled with his splendid philosophy, and appear to resemble it. Every thing he hears or sees is aggrandized by it. His soul, in his imagination, is like a monarch seated on an immortal throne, whose dominion reaches to the ends of the earth; surrounded by his faculties and powers, who,
like

Like the ministers of kings, have a delegated authority; each one in his proper province; yet all these are under the soul as head; and he says to one, go, and he goeth; and to another, come, and he cometh; and rules within the limits of his kingdom with supreme authority."

"How different!" continued the Sage, "is this view to the one exhibited by our sect! Here, every thing is united with infinity; with us, all is pinched within the narrow bounds of time. Instead of this lofty scene, we are presented with a bleak and narrow prospect of common nature. With us, life is a muddy stream, coming no one knows from whence, and going no one knows whither; creeping through ferns and brakes, with here and there a sorry primrose upon its banks. It is the picture of a Dutch kitchen or farm-yard, where we have nothing

but cats and hogs, and where all the finery is a platter, a brass pan, or a well-scoured kettle."

THE Bat left off; and our Monkey thought him a most candid philosopher, but neglected to enquire to what sect he belonged. He was proud of what he had learned, and blessed himself that he had undertaken the journey. Before they parted, he was desirous to know if there was any other philosopher in the neighbourhood, with whom he might commune, before he returned to his Grandfather.

His friend told him there was an Elephant, a notable Sage, that sojourned at no great distance. "He has been" said the Bat, "a Batavian Parson, a very worthy man, but was corpulent, and troubled with a lethargy. He chanced to come over to Hindostan; and one day, as he ascended to his pulpit, his disease fastened upon him;

him ; when the flesh proving too strong for the spirit, he tumbled backward, and his neck was dislocated with the fall. This happening in the country where Brama presides, he was subjected to the laws thereof ; and his soul was made to enter the body of an Elephant, as a punishment for his frailty."

ON saying this, it being now sufficiently dusky, the Bat dropt from the place where he hung, and flitted away ; while our philosopher got up the first tree he found, to pass the night.

EARLY on the morning the spirit of philosophy jogged him on the elbow, and sent him in search of the Sage the Bat had mentioned to him the preceding evening. He went down into the valley ; and had not gone far, before he spied an Elephant resting against a palm, not yet having shook off the slumber of the morning.

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He knew by the description that this was the person he sought. Our friend laid hold gently of one of the Elephant's legs, in order to awake him, but in vain. He then climbed up the tree till he was upon a level with his back, and reached forth his paw and tickled him. Still it was too little. At last he ventured to speak in at the great orifice of his head. In order to do this, he leaped upon his back; but before he reached to lay hold on the tip of his ear, this mountain of flesh quivered under him, insomuch that he was fain to get off with all speed. However, he had effected his purpose. He then presented himself before him, and proceeded to pay his compliments, when the huge creature roared out, "He that takes from me the delicious balm of slumber, does not replace the good by the titillation of compliment." The Monkey apologized for his rudeness: he said that he had heard of his fame, and was come to sit down at the

the feast of science with him; and presum'd that philosophy could never make him an unseasonable visit.

"THE best philosophy" replied the Sage, "is that which instructs us in the duties of our station; in what is due to ourselves, and what to the society we live in. Of this, the circle in which he lives will afford every one experience sufficient to instruct him in his conduct, and in the duties it may require of him."

OUR friend was a little chagrined at such a reception; for by this time he thought himself no inconsiderable proficient in philosophy. But imagining it might only be a fit of ill-humour, occasioned by being awakened too early, he thought it best to try if he could amuse him; so putting on an air somewhat important, he began to relate to this great Sage what improvement he had made under the instructions of his Grandfather,

and

and what he afterwards learned from the discourses of the Eagle and his good friend the Bat.

HE told the Elephant with great jocoseness, that he was no bigger than himself, and that he could prove it to him; and thereupon began a very respectable harangue upon the fallibility of our organs; upon the nature of Extension, and the absurdity of an infinite Progression; and was proceeding with great fluency, when the Elephant stopped him, crying out, "Enough, enough, friend; I am very well satisfied of your abilities, you need give yourself no farther trouble; for my part, I will go on to think the world what I have ever thought it, and what all but madmen have taken it for before me."

"You mistake—you misconceive"—cried the other in a fury—"you do not attend to my arguments."—The Elephant went on without attending. "The art that teaches us to set our opinions at variance with our experience, is the

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art of tormenting ourselves with dexterity, and the wise will be careful to avoid it." "Do you not perceive," said the Monkey, "that what I say is the truth? Can you think life is any other than a puddle running through briars and brakes, and so forth?"

"CONCERNING the origin and the end of this life," replied the Sage, "our knowledge is very limited; of the happiness and misery, the meanness and grandeur of our state, we all feel too sensibly to determine justly. Every one is sufficiently miserable, and sufficiently mean. But among the follies the most exuberant, that is chiefly to be contemned, which urges us to remove from off our diseased limbs the covering that hides them, and which renders our imperfect condition yet more odious."

STILL the young philosopher persisted to deny the reality of every thing, and depreciate every thing, according to the doctrines he had learned.

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The Elephant turned to him with anger, and said, "He that will not forego his folly at the remembrance of kindness, must be compelled to relinquish it at the rebuke of correction." With that, by a swing of his trunk, he laid our little friend sprawling on the ground; then winding it about his body, set him gently on his back, and proceeded toward a river that was within sight, with an intention to wash away the young gentleman's sophistry; but luckily for him, the Elephant passed under some trees, when he laid hold of a branch, and was presently beyond the Sage's reach; escaping thereby an ablution for which he had no passion. When the Elephant perceived this, he took no farther notice of him, but went on his way; and in a short time our philosopher proceeded on his.

HE now directed his rout towards home, and that by the nearest road. As he trudged along he combated his grandfather in imagination, and sharpened

sharpened the metaphysical weapons he had picked up on his journey. But, alas ! no triumph was destined for our poor Monkey. He approached the forest, the place of his nativity ;— he drew near the well-known tree, beneath the shade of which his grandfather was wont to sit. His heart beat thick at the alarms of vain-glory ; and the documents of his friend the Bat trembled upon the portals of his lips, ready to fly off and seize the laurels of the old philosopher. Afar off he perceived his grandfather laid upon the ground, with his head resting on his arm ; he flew toward him ; took hold of his shoulder to awake him ; but alas ! alas ! he awoke no more. His body was cold and stiff ; his hand void of grace ; his tongue ignorant of syllogism ; and the vaulting genius that late inhabited the regions of the brain had fled from its ancient dwelling, and was gone to minister in another state, and already was allied to other faculties.

WHILE

WHILE his grandson was away, some inhuman animals had robbed him of his food, and he was unable to go in search of more. Weak with age and infirmity, together with the want of his accustomed nourishment, he drooped, languished for a few hours, stretched his feeble limbs on the clay-cold ground, and reposed in the lap of death. Remorse seized upon the young one for having left him. Grief at first bereaved him of the power of utterance, but soon the wood re-echoed with his sorrow; and long were his moanings continued. "Ah! wretched me!" he would cry, "why did I ever leave my sacred home and duty, for the ambitious pursuit of a philosopher? Why was I not content with the wisdom of this reverend Sage, and satisfied in watching his cocoa-nuts? Unfortunate animal that I am! may all others be admonished by my misfortunes, and never pursue metaphysics while they should tend their grandfather."

THE END.

